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Socialist Economies Reform

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Volume V

Numbers 401 – 500

401. Policing Unfair Imports: The U.S. Example

J. Michael Finger and Tracy Murray

Unfair trade cases are where the action is because they are broad enough to handle all the action.

Finger and Murray dug out the numbers on U.S. unfair imports cases — how many, against which countries, with what result — to find out how the United States uses antidumping and countervailing duty actions to regulate imports.

They describe the procedures followed by the Commerce Department and the International Trade Commission, survey cases and outcomes in the 1980s, and analyze what drives the unfair trade laws.

The pattern of petitions and results, they conclude, suggests strongly that injury to U.S. producers beset by import competition is what the antidumping and countervailing duty laws are about.

That is why the pattern of antidumping cases is not particularly different from the pattern of antisubsidy cases — and why the frequency of cases against politically powerful countries is the same as the frequency of cases against politically weaker ones.

The political strength of the exporting country does influence the *form* of import restriction the U.S. government will use.

A powerful country will receive the courtesy of a negotiated settlement. A less powerful country will in due course receive determinations through normal administrative procedures.

In short, unfair trade cases are where the action is because they are broad enough to handle all the action.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the economics of the emergence of "fairness" as a standard for regulating international trade and its implications for the continued openness of the international trading system and its continued functioning as an important vehicle for development. Please contact Nellie Artis, room N10-013, extension 38010 (25 pages with tables).

402. The GATT as International Discipline Over Trade Restrictions: A Public Choice Approach

J. Michael Finger

Postwar institutions held at bay the dominance of producer interests over consumer interests. But producer pressures toward protection are now dominant and even with the emergence of market-opening instruments like "301" the forecast for free trade is pessimistic: a buildup of trade restrictions and fewer breezes to disperse them.

The General Agreement on Tariffs and Trade (GATT) was built on a mercantilist sense of economic welfare and a mercantilist sense that domestic producers had a higher claim than foreign producers to the domestic market.

The trade negotiations process did not attack this claim. It gave producers in each country an opportunity to increase its value through mutually beneficial exchanges with producers in other countries.

The process worked as long as institutions forced all producers in a country (import competing and exporting) to reach a collective decision on trade policy — as long as the trade remedies were subjugated by strategic and diplomatic concerns so that they did not give import competing interests an alternative.

Pressure from import competing producers, whose interests are netted out in the trade negotiations process, eventually expanded the trade remedies into a policymaking institution that now eclipses the trade negotiations.

Another mutation of GATT institutions has begun with the development in the United States of "301" — which provides a way for exporting producers to advance their interests without bearing the burden of suppressing or buying off import competing interests. Indeed, "301" attacks foreign restrictions not with the possibility of *fewer* U.S. restrictions, but with the threat of *more*. Trade remedy processes have been installed in many countries, so "301s" should not be far behind.

The GATT system was devised to promote global security and free trade. It has been altered until, in the present system, export interests will generate trade conflicts and import competing interests will generate trade restrictions.

Simply put, the institutions that shape the relevant public choices do not bring out the appropriate economic interests, and the resulting policy choices are not those that promote economic efficiency.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the economics of the emergence of "fairness" as a standard for regulating international trade and its implications for the continued openness of the international trading system and its continued functioning as an important vehicle for development. Copies of the paper are available free. Please contact Nellie Artis, room N10-013, extension 38010 (27 pages).

403. Innovative Agricultural Extension for Women: A Case Study in Cameroon

S. Tjip Walker

In Cameroon's poor Northwest Province, agricultural extension was extended to women for practical, not ideological, reasons — in a sustainable, replicable experiment that increased production and women's income.

Women are responsible for 70 percent of staple food production in Africa, but agricultural extension is still geared to men. The North-West Development Project in Cameroon demonstrates that this scenario of neglect is avoidable.

The project design team that set out to improve agriculture in Cameroon's poor Northwest Province did not extend extension and credit to women for ideological reasons. Food crops were a primary concern, and women were growing them.

Despite stiff academic requirements, the ratio of female extension workers increased to 18 percent for workers and 14 percent for supervisors. Before the project, the few female workers had been restricted to home economics and kitchen gardens. After three months of intensive training, female agents did as well as men.

The project worked more through contact groups than contact farmers. The advantages: cost-effectiveness, the benefits of group dynamics, and the shared use of expensive equipment. And groups allow socially acceptable contacts with male agents, a supportive environment, a

chance to develop leadership and management skills, and the use of more effective communication methods.

Maize credit was given to producer groups whose membership is 90 percent female. The members have collective liability for the loans and achieved virtually 100 percent repayment each year.

The short-term strategy of "gender targeting" was often used. Groups were initially contacted by same-gender extension agents. Once trust and credibility were established and farmers knew the system, the same-gender agent could turn an area over to an agent of the other gender.

These and other techniques used in Cameroon are widely replicable, providing three principals are observed: focusing on small farmers, redressing male biases, and recognizing women's roles.

This paper — a product of the Women in Development Division, Population and Human Resources Department — is part of a larger effort in PRE to document cost-effective ways of raising the productivity of women farmers in Africa. Please contact PHRWD, room S9-133, extension 33752 (53 pages with tables).

404. Chile's Labor Markets in an Era of Adjustment

Luis A. Riveros

A segmented labor market, an inadequate institutional framework for labor, and a distorted real exchange rate were at the root of persistent open unemployment in Chile. A better macroeconomic management and a more adequate regulatory framework for the labor market were critical to successful adjustment in the 1980s.

In the 1970s, Chile underwent profound structural changes in market regulation, public sector policies, and foreign trade.

These changes produced notable economic strain and high open unemployment. After the financial crisis of the 1980s — by means of an export-led structural adjustment program that supported high real exchange rates and promoted investment — the Chilean economy adjusted successfully and resumed economic growth.

Riveros describes the important role labor markets played in the adjustment process.

Expenditure-switching and expenditure-reduction policies are important in interpreting the observed performance of labor market variables. Riveros econometrically estimates an analytical model to study the impact of those policies on wages, unemployment, and investment. He concludes:

Segmentation of the Chilean labor market, combined with an inadequate institutional framework for the labor market and a distorted real exchange rate, have been at the root of the persistent open unemployment problem.

Because of existing labor market segmentation, macro policies have probably increased the wage gap between the formal and informal labor markets.

A more adequate regulatory framework for the labor market was probably instrumental in achieving a more equitable and effective adjustment program.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to identify typical labor market policies in LDCs, specifically those affecting wage flexibility and labor mobility. Please contact Raquel Luz, room N11-057, extension 34303 (41 pages with tables).

405. Investments in Solid Waste Management: Opportunities for Environmental Improvement

Carl Bartone, Janis Bernstein, and Frederick Wright

Despite heavy municipal spending on solid waste management, most cities fail to provide efficient, reliable, universal collection services or environmentally safe disposal — at high costs to public health and the environment. Bank lending should emphasize strategic service planning, better institutional arrangements, more efficient management and finances, and environmental protection.

Municipal solid waste management (MSWM) should protect the environment, safeguard health, and improve productivity. In most developing countries, however, solid waste services consume between 20 and 50 percent of operating budgets for municipal services yet are unreliable, do not reach everyone, and do not provide safe disposal.

The World Bank has financed MSWM improvements through freestanding solid waste projects and components in broader projects. But the total costs of solid waste components in 71 projects during FY74-88 was about $532 million, or only 0.3 percent of Bank lending. And component design and performance have been largely disappointing.

The low level of borrowing for the MSWM sector — considering high municipal spending on MSWM — is attributable to the sector's labor-intensiveness (and relatively low foreign exchange potential); most cities' failure to appreciate the true cost of MSWM services; the difficulty local governments have getting access to capital; and the failure of many Bank projects to include an MSWM expert.

Early Bank projects provided limited funds to procure collection-related equipment. They had little impact on the quality or efficiency of service delivery. In the past five years, Bank lending for MSWM has increased and broadened — and the potential for its effective expansion is evident.

Bartone, Bernstein, and Wright recommend that:

- The Bank adopt a comprehensive policy framework for designing solid waste components or projects that focus more attention on upgrading institutional arrangements, including private sector delivery of services; the financing of capital investments and recurring costs; pricing for better cost recovery; and environmentally safe disposal (including proper management of hazardous wastes).
- Components finance plans addressing the full range of solid waste services and related management activities.
- The Bank help establish financial intermediaries (such as municipal development banks) to support comprehensive MSWM activities, among other urban investments.
- For publicly-provided services, both primary and secondary collection operations be supported, with special emphasis on vehicle selection and maintenance. For low-income areas, they recommend supporting low-cost community-based technologies.
- Land acquisition — for disposal sites and other facilities — should be a condition of loan effectiveness. So should use of only agreed-upon equipment and vehicles.

• Expansion of collection capacity be balanced by investments in nonpolluting disposal facilities.

• Appropriate regulations be established — few in number, transparent, easily understood, equitable, and economically and physically sensible.

• Costs be recovered through mandatory "benefit taxes" (in residential areas) and variable user charges (higher for better services) for commercial and industrial firms.

This paper — a product of the Urban Development Division, Infrastructure and Urban Development Department — is part of a larger effort in PRE to develop a policy framework for the urban environment. Please contact Sriyani Cumine, room S10-141, extension 33735 (84 pages with tables).

406. Township, Village, and Private Industry in China's Economic Reform

William Byrd and Alan Gelb

The rapid growth of rural nonstate industry — a sector of community-based firms — has been the most striking recent economic phenomenon in China, next to the decollectivization of agriculture. For the further development of the sector, defining property rights and gradually opening capital and labor markets are priority tasks.

Next to the decollectivization of agriculture, the most striking economic transformation in China since 1978 has been the rapid growth of rural nonstate industry.

Firms in this sector (referred to here as TVPs) are owned by a hierarchy of local government units below the county level: towns (or townships), villages, and production teams (or, to a lesser extent, private individuals and groups). TVPs owned by township or village governments (that is, not privately owned) are termed TVCEs.

Important both to industry and the rural economy, TVPs have been at the forefront of economic reform. They are market-oriented in terms of output and input and, because of their tiny home markets, outward-oriented.

There appears to be a close relationship between individual incomes and firm/community economic performance. Most individuals expect to stay in their firms for relatively long periods. In some ways, TVPs seem to resemble the so-called Z firms, rather than private or state enterprises.

Community incentives for promoting TVPs are strong. But their community orientation leads to certain problems, resulting from the fragmentation of markets for capital and labor and the multiple, sometimes conflicting, roles of community governments.

Even if resources are used efficiently within rural communities, the immobility of factors of production can lead to increasingly serious misallocations and inequalities between communities.

A gradual opening of capital and labor markets is a priority task in the next stage of reform. Weakening the involvement of community governments in management of rural industrialization is likely to be gradual and take a long time. A stronger legal framework in which TVCEs and private firms can operate will be needed.

National government policy should be to minimize discrimination by government, legal, and regulatory apparatus against TVPs and, within the TVP sector, against private enterprise. The long-term goal should be elimination of differential treatment.

This paper — a product of the Socialist Economies Division, Country Economics Department — is part of a larger effort in PRE to study the reform processes at work in socialist economies. Please contact Kang Chen, room N6-039, extension 38966 (40 pages with tables).

407. Public Enterprise Reform: A Challenge for the World Bank

Ahmed Galal

How can the Bank refine its help to countries embarking on reform of public enterprises?

Public enterprises (PEs) — state-owned or state-controlled productive entities whose output is sold mostly in the marketplace — earn an average 10 percent of GDP in developing countries (17 percent in African countries, 12 percent in Latin American countries, and 3 percent in Asian countries).

Many governments are reexamining the role of the state, so questions about whether to divest PEs or make them more efficient are likely to intensify. The Bank will increasingly be called upon for advice and financial support in managing the transition period. Galal recommends that the Bank:

• Maintain its focus on rationalizing the size of PEs, by liquidating nonviable PEs and transfering their ownership or control to the private sector, if that will make them more efficient. In helping countries improve the efficiency of PEs that remain public, the Bank should emphasize both policy framework and institutional set-up, and restructuring of individual enterprises.

• Extend its analysis of PEs to the socialist economies, explore the relationship between PEs and the private sector, and study how best to phase and sequence PE reforms.

• Refine PE reform components and tools, especially in terms of the phasing and sequencing of price liberalization and competition; the budgetary impact of PEs (their costs versus their revenues — and here Galal discusses the "waterbed effect," how holding down costs in one area raises costs in another); and the valuation of PEs for divestiture.

• Learn more systematically from experience by analyzing the outcomes of PE reforms; the performance of divested PEs; the effects on efficiency of staff reductions; and the effectiveness of program contracts on enterprise efficiency.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — is part of a larger effort in PRE to: (i) review past efforts in institutional development, (ii) determine where these efforts have succeeded and where they have done poorly, and (iii) suggest how the World Bank and its borrowers can better create and strengthen an appropriate institutional framework for economic development. An earlier version of this paper was presented at a conference on Institutional Development and the World Bank, held in Washington DC in December 1989. Please contact Gloria Orraca-Tetteh, room N9-069, extension 37646 (47 pages with tables).

408. Methodological Issues in Evaluating Debt-Reducing Deals

Stijn Claessens and Ishac Diwan

Here is a simple method for identifying the best debt deals a country can bargain for with its creditors when debt reduction and new money are the only options available.

The novelty and complexity of menu-based debt reduction deals under the Brady Initiative make it difficult to see through the smoke and mirrors of financial engineering. Claessens and Diwan explain the essentials.

They explain the building blocks for analyzing debt deals, discuss common pitfalls, and introduce the concept of the debt value curve. They analyze in detail the main instruments available for debt reduction: buybacks; an exchange of foreign debt against another foreign asset with different terms; and an exchange of foreign debt against a domestic asset (a debt-equity swap). They describe how to put the different elements of a deal together to arrive at a suitable balance between debt reduction and liquidity. And they discuss the impact of senior lenders on debt deals.

They emphasize two fallacies in voluntary debt reduction deals:

- That voluntary market-based mechanisms are always good for all. The advantage of market-based mechanisms is that they get around collective action problems — but they don't necessarily benefit everyone.
- That the mere existence of a discount on the secondary market is a sufficient condition for buybacks that are profitable for a debtor.

Drawing on applications in Mexico, Costa Rica, and the Philippines, Claessens and Diwan present a simple method for identifying the best debt deals, in terms of debt reduction and liquidity, a country can bargain for with its creditors when debt reduction and new money are the options. They emphasize that the provision of new money is best viewed as a concession by non-existing creditors in exchange for the value increase of their existing debt on account of the debt reduction.

Now the challenge is to identify the deal that is best for the country (given its preferences about liquidity versus debt reduction) *and* that will be acceptable to its creditors. That will require a general equilibrium macroeconomic model to analyze a country's investment, growth, and repayments behavior when the country has a foreign credit constraint and a debt overhang. It will also require a better understanding of how banks make a choice when presented with a menu of options.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to understand the responses of commercial creditors to different debt restructuring deals, so as to design deals which are more favorable for the country. Please contact Sheilah King-Watson, room S8-025, extension 33730 (37 pages with graphs and tables).

409. Financial Policy and Corporate Investment in Imperfect Capital Markets: The Case of Korea

Mansoor Dailami

The vigorous expansion of corporate real investment in Korea in the 1980s despite high real interest rates owes much to the rapid growth of the stock market and its increasingly important role in supplying equity capital to the corporate sector.

First, assuming that debt capital has been subsidized through both taxation and regulatory interest rate policy, corporations have drawn on the stock market to finance their marginal investment projects.

This reliance on new share issues as the marginal source of financial capital is consistent with the observed relationship between stock market price movements and corporate investment behavior. It also explains Dailami's inability to establish a statistically meaningful relationship between corporate investments and profits — which would have been the case had corporations funded their investments at the margin through retained earnings.

The marginal profitability of investment in Korea is high, or has been shifting upward. Otherwise it would be difficult to justify corporate reliance on relatively costly external equity as a marginal source of funds.

Second, the real aggregate stock market price, rather than the average q, or even the average rate of profit, is the preferred proxy for the theoretically appropriate — but unobserved — marginal q in explaining corporate investment behavior. The link between stock market and real economic activity has been particularly evident in the 1980s, when rapid growth of the market has been accompanied by vigorous economic growth and a boom in corporate business investment.

Third, corporations in Korea have used low-cost debt to finance investments in financial assets as well as in physical and productive assets. These financial assets — liquid assets (cash, bank deposits, and government securities), other companies' shares, and accounts receivable — are known to account for relatively more (42.6 percent) of total corporate assets in Korea than in the United States (24.3 percent) or the United Kingdom (37.8 percent).

To the extent that external equity is the corporate sector's marginal source of funds, what is relevant in determining incentives for new investment is what determines the cost of equity (such as taxation of dividends and capital gains) plus the procedure for pricing new share issues.

Policy should cater increasingly to the requirement of developing equity markets, including measures to change the method of pricing new share issues from the prevailing par- value based system (or premiums thereof) to a system based on market forces. The existing par-value pricing procedure has evidently been an important factor behind the high cost of external equity capital in Korea and a potential source of speculation.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in PRE to understand the role of capital markets in the growth and adjustment process of developing countries. Please contact Maria Raggambi, room N9-041, extension 37657 (47 pages with tables).

410. The Cost of Capital and Investment in Developing Countries

Alan Auerbach

A model for evaluating how policy changes might affect incentives to invest in developing countries.

Auerbach's model can be used to evaluate how current and new policies might affect incentives to invest in a developing country.

It takes into account factors that are often ignored in analyses of investment in more developed countries — such factors as risk, foreign tax provisions that affect capital flows, the prevalence of trade distortions, the lack of domestic capital markets, and the relative credibility of government policy changes.

The author reviews the literature on investment and the cost of capital, showing how the effects of tax and nontax government policies should be incorporated in any analysis of investment behavior.

The methodology is more general than calculations of tax wedges and effective tax rates. It should help developing countries measure the efficacy of current policies, predict how policy changes may influence investment, and determine appropriate directions for reform.

This paper is the first in a series of papers commissioned by the Tax Incentives for Industrial and Technological Development Research Project of the Public Economics Division. Researchers on this project have focused on the following questions:

For each dollar of forgone tax revenues, how much have tax incentives stimulated investment?

Do taxes affect foreign investment in developing countries? Do they influence foreign business locations? If they do, what instruments best stimulate the most investment per dollar of tax revenues lost to the host country?

How do taxes affect industrial production? How have tax instruments affected the use of labor? How have they affected physical, research, and development capital?

How have business taxes and tax expenditures (forgone revenues) affected technological change, the expansion of private output, and after-tax profits?

Are these tax-induced distortions preventing firms from holding optimal levels of fixed factors?

Given the empirical estimates obtained in this study on factor substitution, a bias toward technical change, and scale economies, what revenue-neutral alternative tax policy environment would encourage growth and productivity?

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to promote sound public policies in the development of the private sector in developing countries. Please contact Ann Bhalla, room N10-059, extension 37699 (43 pages).

411. Institutional Dimensions of Poverty Reduction

Lawrence Salmen

Efforts to reduce poverty would be more successful if they were energized more by demand than supply — by seeing the poor less as beneficiaries of government largesse and more as customers working their way out of poverty.

The Bank's central operating paradigm, writes Salmen, is the "miracle of the market" — those who need goods and services offer prices that stimulate others to supply them. The principle of demand organizes service delivery to the rich and powerful, who use their purchasing power or connections to stimulate those services that interest them.

But people-oriented service organizations are usually supply-driven providers that try to induce clients to consume what is judged to be good for them. Experience suggests that poverty-reduction efforts would be more successful if they were energized more by demand than supply.

The Bank should see the poor less as beneficiaries, passively receiving government largesse, and more as customers who they can help enable to pay the costs — with their time, labor, and capital — for what they see will better their own lives.

Rather than gather only numbers, the Bank and its borrowers should try to understand and support the informal institutions through which poor people act. It should take advantage of such qualitative techniques as focus group interviews, social marketing, beneficiary assessment interviews, and participant observations (successful uses of which Salmen describes).

The Bank should encourage the development of a "thickening social web" of nongovernment organizations (NGOs), including community associations, cooperatives, church groups, peasant leagues, and the like.

The Bank should use more local personnel — including local independent consultants (individually or through NGOs or research institutions) — to understand grassroots realities that Bank staff have difficulty mastering in several two- or three-week missions a year. Failure to understand local formal and informal institutions can mean an operation does not take hold or is unsustainable.

The Bank should more fully use country Bank offices to gather information on local conditions and institutions. A research analyst posted in Bolivia for a year, for example, came to understand the involvement of local institutions, particularly NGOs, as mechanisms for outreach to the poor.

In staffing, there is no substitute for exposure to the poor if the goal is to understand poverty and what might be done about it. Some aspects of poverty defy objective analysis — for example, the fear of debt that arises from insecurity about unstable employment and earnings, and the importance of the family in shaping school attendance rates and family planning decisions.

Practical ways to provide this exposure include staff sabbaticals geared to increasing Bank staff exposure to poverty conditions and activities, and allowing more exploratory time during project identification to do reconnaissance work off the beaten path.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — is part of a larger effort in PRE to assess the institutional aspects of development, particularly regarding public sector management. Please contact Ernestina Madrona, room N9-061, extension 37496 (38 pages).

412. Exchange Rate Policy in Developing Countries

W. Max Corden

In general the best approach to exchange rate policy is the "real targets" approach, although the nominal anchor approach is appropriate for certain situations. The exchange rate should follow rather than lead, it should be linked with appropriate noninflationary monetary policy, and if it must change, it should change quickly.

After comparing the "real targets" and the "nominal anchor"* approaches to exchange rate policy in developing coun-

tries, Corden offers four basic recommendations:

In general the best approach to exchange rate policy is the "real targets" approach. The exchange rate should follow rather than lead — taking into account shocks or variables in fiscal and trade policy and changes in terms of trade.

Exchange rate policy should be linked with appropriate noninflationary monetary policy. Normally there must be a commitment to anti-inflation objectives if inflation is to be avoided. Without such a commitment, if monetary policy is inflationary, exchange rate policy must still be aimed at the real target — the real exchange rate — unless there is reason to believe that such a target would significantly reduce the commitment to anti-inflation.

Because capital is so mobile, delayed exchange rate adjustments must be avoided. If the rate must change, it should change quickly.

The nominal anchor approach may be useful in two kinds of countries — at opposite ends of the inflation spectrum.

- Countries that have long-established fixed exchange rate systems — with occasional devaluations and with relatively noninflationary records — may be well advised to stay with such a system, since their commitment will be credible. One thinks especially of Thailand, perhaps Indonesia, and some African countries in the franc zone.
- Countries with histories of high inflation that are now ready to stabilize — to commit themselves to radical policy shifts (one thinks of Argentina, Brazil, and Mexico) — may find a fixed exchange rate (or an active crawl) a valuable anchor. It should constrain government monetary policies and help achieve credibility with the markets, including the labor market. But countries that choose a fixed rate regime or an active crawl must recognize that there is a kind of "exchange-rate-adjusted Phillips curve" tradeoff: at least for a short time, misalignment of the real exchange rate is quite likely.

* The real targets approach, orthodox in the World Bank, assumes that nominal exchange rate changes have prolonged real effects and that the exchange rate should adapt to other policies. Fiscal expansion, for example, may require depreciation or appreciation, depending on the circumstances. With the nominal anchor approach, the exchange rate is used as an instrument of anti-inflation policy — as a way of constraining domestic policies and influencing private sector reactions. But governments can temporarily evade the exchange rate constraint through import restrictions or foreign borrowing.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to improve the understanding of the role of exchange rate policy on economic adjustment. Please contact Max Corden, room N11-023, extension 39175 (43 pages with figures).

413. Supporting Safe Motherhood: A Review of Financial Trends — Full Report

L. M. Howard

Almost 500,000 women a year from developing countries die from pregnancy-related causes. In 1987, an international conference in Nairobi, Kenya launched a global Safe Motherhood Initiative with World Bank co-sponsorship. By 1989, how were the donors responding to the Initiative?

Financial trends for safe motherhood initiatives. Problems of definition and accounting methods preclude an accurate analysis of financial trends among donors. Global support for specific safe motherhood activities is limited. For the 17 major bilateral sources, funding for selected activities which contribute to safe motherhood is estimated to have increased (in current dollars) from $691.5 million in 1986 to $818.8 million in 1988. About half this amount was for so-called core* activities, including family planning services. The magnitude of support for prevention of the complications of pregnancy is less certain. General health, population, and nutrition sector flows increased substantially over the same period. These trends were positive for 13 sources, unchanged for three, and negative for one.

Of the six major multilateral sources, totals for selected safe motherhood activities were estimated to be $477.7 million in 1988, a 41.7 percent increase over 1987 and a 17 percent increase over 1986, reflecting differences in the annual volume of World Bank loan approvals. Half of this went for core services, primarily family planning.

Estimated World Bank safe motherhood expenditures in 1989 are triple the previous year's total. This is due primarily to substantial increases in general loans for health, population, and nutrition. New specific safe motherhood activities are beginning to emerge in the form of care for the complications of pregnancy, better secondary and tertiary facilities, training, and promotional workshops.

The magnitude and effectiveness of donor financing will require more attention to two special problems:

- Strengthening recipient countries' ability to articulate project demand — providing specific training, technical advisory assistance, and operational guidelines for mobilizing financial resources.
- Improving the data on safe motherhood financial trends — establishing a consensus on definitions; seeking a consensus on financially measurable program or project categories of safe motherhood; defining methods for the systematic collection of donor and recipient country data on financial trends.

* At the 1987 Conference on Safe Motherhood in Nairobi, Herz and Measham recommended a core program for safe motherhood that included reducing the number of pregnancies through family planning education, promotion, and community-based services; reducing the risks to pregnancy and childbirth; providing prenatal care, supervised deliveries, screening, and referral for high-risk mothers; and providing communication and transportation for complicated deliveries.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to promote policy and resource commitment to the Safe Motherhood Initiative. Please contact Otilia Nadora, room S6-065, extension 31091 (50 pages with figures and tables).

414. Supporting Safe Motherhood: A Review of Financial Trends — Summary

L. M. Howard

Refer to WPS 413 for the abstract.

WPS 413 contains the full section on Interview Notes with different financing sources.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in

PRE to promote policy and resource commitment to the Safe Motherhood Initiative. Please contact Otilia Nadora, room S6-065, extension 31091 (16 pages with figures).

415. How Good (or Bad) are Country Projections?

Norman Hicks and Michel Vaugeois

Country projections are routinely used to describe likely prospects for national accounts and balance of payments aggregates. However, an examination of those undertaken during the 1983-85 period shows that they are often overly optimistic, and that there are wide variations between projected and actual outcomes. This raises serious questions about the utility of these projections for making judgments about future prospects and creditworthiness.

Bank economists routinely undertake projections of national accounts and balance of payments for their countries, and these appear as part of the Bank's Country Strategy Papers. Since these projections are used to form judgments about country prospects and creditworthiness, it is important to know how accurate they forecast the future, and what biases exist in the process. The general view is that these projections are often optimistic in terms of their expectations of favorable results.

This note examines projections done during the 1983-85 period, and compares the projected levels of GDP, imports, exports, terms of trade, savings and investment with the actual outcome for the same period. The principal conclusions are that for this period:

- GDP projections tended to be optimistic (4.2 percent projected average versus 2.9 percent actual);
- Projected export volumes, however, tended to be slightly lower than the actual outcome (6.1 percent versus 6.4 percent);
- The actual terms of trade deterioration (-4.8 percent) was somewhat worse than expected (-0.2 percent), but there were extremely wide variations among countries;
- Investment and savings rates were both slightly overestimated, but with significant variation among countries;
- On a regional basis, projections of GDP growth in African countries had the greatest overestimation;
- Resource gaps, or capital inflows, were about what was expected; but
- Investment efficiency, measured by incremental capital-output ratio was much worse (6.8 percent versus 4.9 percent) than expected.

The overall conclusion is that biases introduced by country economists into the projections because of an overly optimistic view of their countries is only part of the problem; inaccurate forecasts of export and import prices, export volume growth, and external resources are also a source of errors. The likelihood of wide variations between projections and actual events suggests that the use of these projections for judgments about creditworthiness and country risk could be misleading. Not only are improvements needed in country modeling, but equally important are improvements in the forecasts of external environment facing developing countries.

This paper — a product of the Strategic Planning Division, Strategic Planning and Review Department — is part of PRE's ongoing mandate to undertake periodic reviews of Country Strategy Papers. Please contact Lynette Alemar, room S13-141, extension 31023 (17 pages with tables, an annex, and appendices).

416. Improving Data on Poverty in the Third World: The World Bank's Living Standards Measurement Study

Paul Glewwe

An account of the World Bank's ambitious effort to collect household-level data on poverty in developing countries — and of what that data are beginning to say about the effects of government policies on living conditions of the poor.

The starting point for reducing world poverty was to provide accurate, up-to-date data on poverty in developing countries. The sparse, outdated data previously available were often of dubious accuracy and usually unavailable in a form useful for policy analysis.

One of the most ambitious attempts to improve the quality of data collected at the household level from developing countries is the Living Standards Measurement Study (LSMS) program, which the World Bank launched in 1980.

The main objective of LSMS surveys is to provide household-level data for evaluating the effect of various government policies on the population's living conditions — in studies, for example, of the impact of education on nutrition, the effect of health on employment, and the relationship between income and fertility.

After describing how the LSMS began and how data are collected, Glewwe presents selected results. Some general trends have emerged in studies of five of the six countries for which LSMS data are available:

Most of the poor are in rural areas; the fraction of the poor population in rural areas is always substantially higher than the fraction of the total population in rural areas.

Most of the poor are in households in which the head works in agriculture. The heads of poor households are most likely to be self-employed, especially in Africa. (Very few heads of poor households work for the government, so freezes on government wages are unlikely to hurt many of the poor.)

The heads of poor households have low levels of education — most of them elementary education or less, and in some (particularly African) countries no education at all.

Glewwe also presents selected results of studies on the persistence of poverty, and of studies of the effects on the poor of structural adjustment, of food stamps and food subsidies, and of raising user fees for health care and education.

This paper — a product of the Welfare and Human Resources Division, Population and Human Resources Department — is part of a larger effort in PRE to examine the causes and consequences of poverty in developing countries. Please contact Brenda Rosa, room S9-137, extension 33751 (36 pages with tables).

417. Modeling the Macroeconomic Requirements of Policy Reforms

William Easterly, E. C. Hwa, Piyabha Kongsamut, and Jan Zizek

The macroeconomic requirements of policy reforms can be determined through an extension of the Bank's RMSM model to

include fiscal and monetary variables and behavioral functions.

Easterly, Hwa, Kongsamut, and Zizek assess the macroeconomic policy regime required for structural economic reform in trade and financial policy. To do so, they develop a macroeconomic model for deriving the appropriate stance on macroeconomic policies needed to support structural reform measures in trade and finance.

The macroeconomic projection model of Colombia they use is an extension of the Bank's Revised Minimum Standard Model (RMSM) currently in use. They enrich the traditional RMSM by adding fiscal and monetary identities as well as behavioral functions for the following variables: private consumption, private investment, money demand, demand for quasi money, export supply, and import demand.

They illustrate how the *basic* model functions by comparing three simulations to a base case run, increasing the targets for three variables: the real exchange rate, the real interest rate, and the inflation rate.

All three simulations increase the financeable fiscal deficit, but in different ways. A target of real exchange rate appreciation increases it by making more foreign credit available to the public sector. Higher targets for real interest and inflation rates increase it by making more domestic credit available.

They then extend the model to take into account the external financing constraint facing the government and the economy, and by adding detail on the tax and banking systems. They use the extended model to discuss macroeconomic adjustments needed for policy reform being considered in Colombia for trade (reduced tariff rates and relaxed import quotas), finance (reduced reserve requirements and forced investment requirements for the banking system), and reducing inflation.

All the policy reforms require fiscal adjustment to be consistent with available financing. For example, reduced tariff rates mean lost revenues, which must be compensated by revenue increases elsewhere or spending cuts. The incipient increase in import demand because of reduced tariffs requires more currency depreciation, although not as much as the increase in the tariff rate. Quota reduction also requires some currency depreciation.

All scenarios require reducing public investment if no other fiscal measures are taken. Since reducing public investment lowers growth, these simulations dramatize the need to pursue fiscal reforms that compensate for the adverse fiscal effects of trade or financial liberalization without reducing urgent social spending or investments in public infrastructure.

The model does not try to capture the favorable effects of reform on efficiency and growth, which other evidence suggests would be large enough to raise growth in the long run even if there were an ill-advised reduction in public investment.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to develop a macroeconomic projection model that will improve and extend the Bank's RMSM model. Please contact Raquel Luz, room N11-057, extension 34303 (82 pages with figures and tables).

418. Does Devaluation Hurt Private Investment? The Indonesian Case

Ajay Chhibber and Nemat Shafik

In the short run, devaluation hurts private investment because higher real import costs for capital and intermediate goods limit private sector profitability. In the long run, the recovery in tradable goods sectors increases profitability and private investment recovers. But how long is the long run?

Devaluation affects investment because of its effect on the real supply price of capital goods; the real price of imported inputs, which together with capital goods are used to produce output; the real product wage and thereby profitability and investment; real income, which affects the demand for domestically produced goods; and nominal and real interest rates, which in turn affect investment.

Information on the short- and long-term effects of devaluation are critical in designing adjustment programs — particularly in assessing the appropriate amount of external assistance — because the short-term effects may be radically different from the long-term effects.

In the short run, the real cost of imported capital and inputs increases, which hurts private sector profits and dampens investment. In the long run, real exchange rate depreciation leads to a restructuring of private industry to meet rising export demand, efficiency improvements increase profitability, and private investment recovers quickly.

But how long are the short and long runs?

Chhibber and Shafik, using an econometric model of the Indonesian economy, found that Indonesia adjusted in about two or three years — which is a relatively quick turnaround compared with other countries undergoing adjustment.

In the opinion of the authors, the credibility of Indonesia's economic policies played a key role in Indonesia's turnaround. By orchestrating comprehensive reforms in taxation, the financial sector, and the exchange rate, the Indonesian government sent a clear signal to the private sector that lent credibility to its adjustment efforts. This was also crucial to the recovery of investment and the restoration of growth.

This paper — a product of the Office of the Vice President, Development Economics — is part of a larger effort in PRE to understand the response of the private sector to policies, so as to better design adjustment programs. Please contact DECVP, room S9-021, extension 33490 (43 pages with figures and tables).

419. The Design and Sequencing of Trade and Investment Policy Reform: An Institutional Analysis

Brian Levy

How different levels of political commitment and different degrees of organizational capability affect the design, sequence, and outcomes of trade and investment policy reform in twelve Bank-supported countries.

Adjustment faces political obstacles to the extent that it imposes costs on groups within society that are important to government or threatens the stability of a regime.

It faces organizational obstacles to the extent that it imposes tasks that government bureaucracies are incapable of meeting.

Political obstacles can undermine decisions about the extent of reform and efforts to implement reform. Organiza-

tional obstacles affect mostly implementation.

Levy argues that policy reform should be designed one way in countries with strong organizational capabilities but limited political flexibility and quite another way when the situation is reversed.

Organizationally strong but politically constrained countries should start with roundabout (indirect) but administratively intensive reforms as a way of building a constituency for subsequent liberalization — for example, promoting exports by setting up bonded export facilities and duty and tax drawback systems before trying to liberalize imports.

By contrast, countries with political flexibility but weak organizational capabilities—including many in Sub-Saharan Africa — should avoid roundabout measures. It is easier for them to dismantle poor regulations and interventionist institutions than it is to get them to stop constraining economic activity and start supporting it.

In politically flexible but organizationally weak countries, free entry should be favored over the establishment of one-stop shops to streamline bureaucratic requirements for new entrants; targeted investment incentives should be abolished rather than rewritten to favor socially efficient subsidization; and import liberalization should be pursued as much as possible, not finessed through support for exporters.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — is part of a larger effort in PRE to examine the institutional dimensions of economic reform and the way they influence the supply response of the private sector. Please contact Brian Levy, room N9-059, extension 37488 (33 pages with tables).

420. Making Bank Irrigation Investments More Sustainable

Gerald T. O'Mara

It is time to rationalize policy guidelines on Bank irrigation projects.

Until 1976, Bank policy emphasized recovery of all costs on irrigation projects, or at least complete recovery of operating and maintenance (O&M) costs. Subsequently, policy specified three pricing objectives for the design of irrigation service fees: economic efficiency, income distribution, and public savings.

The objective of economic efficiency was framed in irrelevant terms and the detailed objectives for income distribution were unworkable. This left the objective of public savings — for which there are no clearcut instructions.

So between 1976 and 1988 no effective formal policy guidelines existed for cost recovery on irrigation — although the Bank was active in lending for irrigation in those 12 years.

No OED review of loan conditionality on cost recovery for irrigation has been produced for the period, but the 1986 OED review on the period before 1976 concluded that the record for the earlier period was not good.

In at least two-thirds of the projects reviewed, the covenant requiring cost recovery to cover at least O&M costs had not been honored. In many cases, the covenants covering cost recovery were so vague that it was difficult to judge if there had been compliance. Auditors found O&M of the irrigation satisfactory in only half of the projects.

Existing guidelines are inadequate, and the need for quality control is great, so O'Mara proposes six points as the basis for a new policy framework for Bank irrigation projects:

- Accept the diversity of cultures and institutional arrangements in borrowing countries and incorporate flexibility and ingenuity into the design of feasible irrigation institutions.
- Focus the Bank dialogue on the physical sustainability of irrigation investments and associated natural resources. In short, the Bank should be more flexible about institutional preferences but should insist more strongly on arrangements that preserve sustainability.
- Approach the financing of irrigation as a policy adjustment issue.
- Base cost-recovery policy on an analysis of the total complex of government interventions. Most countries prefer to impose direct and indirect taxes on agricultural commodity output although such taxes are often unjustified in terms of equity or cost recovery.

Decisions on the third and fourth points require thorough economic analysis.

- Assign tax policy instruments to appropriate policy objectives.
- Accept indirect cost recovery where it exists, but insist on an accounting of the equity issues associated with rent transfers for irrigation.

On the fifth and sixth points, analysis must take into account the welfare effects on the major groups involved. The appropriate objective for irrigation service fees (if there are no equity issues) is public savings or cost recovery.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to provide analytical reviews of major issues in the sustainability of natural resources and preservation of environmental quality. Please contact Cicely Spooner, room N8-035, extension 30464 (32 pages).

421. Taxation of Financial Intermediation: Measurement Principles and Application to Five African Countries

Christophe Chamley and Patrick Honohan

Hidden taxes on the financial system, such as interest rate ceilings, reserve requirements, and the currency tax are often heavier than explicit taxes. Interest rate ceilings may distort financial intermediation more than other taxes.

To measure distorting taxes (explicit and implicit) on the financial sector of five African countries, Chamley and Honohan view taxation more broadly than is customary.

They go beyond the currency tax and reserve requirements to include the quasi-tax effects of interest rate ceilings. Under this broader approach, the true scale of taxation on financial intermediation is much higher than is commonly appreciated.

The level of tax has varied widely over time and between countries, but has been a significant element in total government revenues, especially during fiscal crises induced by commodity slumps. Between 1978 and 1988, this kind of tax accounted for an average 4 percent to 7 percent of GDP in three of the less macroeconomically stable economies (Ghana, Nigeria, and Zambia) and close to 2 percent of GDP in the two more stable economies sampled (Côte d'Ivoire and Kenya). Expressed as a percentage of M2, the tax rate has gone as high as 90 percent.

By any reckoning, the financial sector has been more heavily taxed than other sectors. Even excluding the currency tax, which does not directly affect the banking system, taxes collected averaged the equivalent of several times the value added of the banking system in the three high-tax countries. That is a serious disincentive to financial intermediation and surely too high for economic efficiency.

Different types of tax distort behavior differently. In relatively less developed financial markets such as the five studied, interest rate ceilings may impose higher welfare costs than explicit taxes or reserve requirements.

Surges in inflation in the five countries correlated with high taxes on the financial sector. Governments reforming taxes on the financial system should consider building in mechanisms (adjusting administered interest rates, for example, or moving to explicit, such as value-added, taxes) to reduce the sensitivity of financial sector taxes to the inflation rate.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in PRE to examine the effects of economic regulation on the financial sector. Please contact Wilai Pitayatonakarn, room N9-003, extension 37666 (83 pages with figures and tables).

422. Civil Service Reform and the World Bank

Barbara Nunberg and John Nellis

Some argue that the complexity and uncertainty of civil service reform place the field outside the Bank's comparative advantage. But a retreat from civil service management reform is tantamount to denying the crucial importance of government administrative capacity to implement economic and social programs. A more realistic approach is to try to learn, through trial and error, how to make such programs work better.

After reviewing civil service reform work in the Bank, Nunberg and Nellis reach certain conclusions:

The impact of Bank programs to contain the cost and size of civil services through emergency reform of pay and employment policies has so far been negligible. Reform efforts have not been ambitious enough; meaningful change will require more forceful reform. Middle-range measures such as voluntary departure schemes and early retirement programs are useful but are not a substitute for biting the bullet.

Whether more aggressive reform is feasible is partly a technical but mainly a political issue. But in the few countries where reform has been carried out, the political costs were lower than most governments (perhaps even the donors) expected. This may have been partly because of the surprising capacity of labor markets to absorb surplus government workers and partly because of the skillful handling of reform.

Functional reviews and competency testing provide symbolic assurance that the reform process will be fair. Retraining, redeployment, credit, and public works programs for redundant employees are symbolically and politically effective but have limited practical impact and are administratively difficult.

The Bank should no longer encourage or support mechanisms such as topping up executive-level salaries for key government posts unless such incentive schemes are part of an action strategy for long-term structural reform.

Technical assistance loans (TALs) for civil service management should probably provides twice the present amount of staff supervision and specialized expertise.

Such technical assistance loans require more time to prepare and implement than do infrastructure projects. They often get short shrift because of their dependence on the scheduling and requirements of structural adjustment lending. On the other hand, without SALs, many civil service reforms in TALs have no teeth.

Most Bank activities have concentrated on short-term cost-containment measures. More emphasis must be given to longer-term management issues if sustained improvement in government administrative capacity is to take place. More attention must be placed on devising a coherent, overarching strategy and detailed tactics for civil service reform.

Some argue that the complex and uncertain nature of civil service reform places the field outside the Bank's comparative advantage. They argue that the Bank should confine itself to helping define economically rational policies, such as the appropriate, affordable size of the wage bill.

But the Bank cannot identify the need to remove X thousand surplus personnel and assume that the job of removing them will be carried out by the government or a bilateral donor. The challenge for the Bank is to design projects that have measurable short-run cost-containment goals but realize them in the context of a strategy to solve the fundamental management problems in the long run.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — is part of a larger effort in PRE to assess the Bank's accomplishments, problems, and prospects in the field of public sector management. An earlier version of the paper was presented at a December 1989 conference on "Institutional Development and the World Bank." Please contact Rose Malcolm, room N9-055, extension 37495 (50 pages with tables).

423. Relative Price Changes and the Growth of the Public Sector

M. Shahbaz Khan

The relative size of the public sector and the rate at which its size changes may be severely underestimated in developing countries and overestimated in developed countries, if the indicator for the size of the public sector is the ratio of current public spending to GDP.

Policy recommendations to reduce the growth of public spending are haunted by the inevitability of:

- Wagner's law — the hypothesis that with economic development an increasing share of GDP is devoted to public spending.
- Baumol's effect — the hypothesis that as economies develop, public sector prices rise faster than prices in the general economy.

Neither of these hypotheses has adequately been tested, largely because consistent public sector prices are unavailable for most developing countries.

Khan proposes that the unavailability of consistent public sector price deflators can be overcome by econometrically estimating these series with the help of data on public spending and the widely available GDP deflator. He uses this method to test both hypotheses. An analysis of time-series data from 71 countries indicates that:

• Although data support Wagner's law in the majority of developing countries, the degree of support varies with the level of development. In response to rising income, real public sector spending rises most in the low-income economies, less in the middle-income economies, and least in the industrial market economies.

• Similarly, the average income elasticity of public spending drops from 2.2 in the low-income economies to 1.6 in the middle-income economies to about 1.0 in the industrial economies. In the long run, the size of the public sector tapers off as economies develop.

This is mainly because of changing price levels in the public sector relative to price levels in the general economy. Although Baumol's effect cannot be observed in a majority of the countries, relative prices tend to fall rapidly in the low-income countries, less rapidly in the middle-income countries, and actually start rising in the industrial economies.

This is believed to be due to the differences in technological intensity between the public and private sectors, the strength of the government in negotiating input prices, and labor market conditions as countries move through different stages of development

This paper, a background paper for the 1988 World Development Report, is a product of the Office of the Vice President, Development Economics. Please contact the World Development Report office, room P4-009, extension 38064 (20 pages with tables).

424. Mexico's External Debt Restructuring in 1989-90

Sweder van Wijnbergen

Who in the end profited most from the official resources devoted to Mexico's last debt restructuring: Mexico or its commercial creditors? Mexico. But in establishing the basis for long-term growth the package seems a reasonable compromise between the conflicting interests of Mexico and its commercial creditors.

Mexico's suspension of debt service payments in August 1982 ushered in the international debt crisis. In two consecutive debt restructuring packages, in 1984 and 1987, Mexico began vigorous structural reform under the so-called Baker plan. Mexico's experience vividly demonstrates the strength of that plan and the reasons for its eventual failure — the fact that it was inherently a short-term process.

In December 1988, Mexico's President Salinas announced that external creditors were expected to contribute to a medium-term solution. In March 1989, the new U.S. Treasury Secretary, Brady, effectively legitimized the word "debt relief" in a speech that opened the way for the 1989 debt restructuring agreement that van Wijnbergen analyzes here.

That agreement offered commercial creditors the choice between exchanging old debt instruments for new instruments involving debt relief (lower interest rates or principal) but partially secured with collateral; or unsecured instruments without debt relief, but with a new money commitment attached.

Active debates on the merits of this package are often confused. In an extensive economic analysis, van Wijnbergen addresses the question: who in the end profited most from the official resources devoted to the deal: Mexico or its commercial creditors? He concludes:

Mexico made efficient use of the official funds available for debt reduction. The market value of the claims before enhancement declined by close to the full amount of the value of the additional foreign official resources devoted to the package. The rate of return on the use of official resources far exceeds the interest rate at which they were extended.

The market value after enhancement was basically the same as the market value of the outstanding claims before the deal — so Mexico's commercial creditors got a fair deal. The credit enhancement by and large made up for the debt relief. But no more than that — the official creditors' money benefited Mexico rather than its commercial creditors. The World Bank, the IMF, and the Government of Japan (which provided the official resources) achieved their objective of helping Mexico; the additional resources did *not* accrue to the creditors, which many feared and some deemed inevitable.

Finally, on the basis of available evidence, this package established the basis for sustainable growth in Mexico.

This paper is a product of the Country Operations Division, Latin America and the Caribbean Regional Office, Country Department II. Please contact Margaret Stroude, room I8-163, extension 38831 (33 pages with figures and tables plus 21 pages of annex).

425. Earmarking Government Revenues in Colombia

William A. McCleary
and Evamaria Uribe Tobon

Reducing and rationalizing the earmarking of government funds will give Colombia's government budget more flexibility. The extent of earmarking could be sharply reduced by limiting its application to revenue-sharing between levels of government and to cases where the benefit principle applies.

About 55 percent of total public income in Colombia is earmarked for specific areas of government activity. McCleary and Tobon recommend reducing the proportion and amount of earmarked funds to give the government budget more flexibility. Their recommendations would eliminate one quarter of existing earmarking and introduce greater flexibility for an additional one quarter. They further conclude that:

Earmarking should be limited to revenue- sharing and to situations where there is a clear connection between the source of revenue and the benefits of earmarked spending (for example, between payroll taxes and pension/disability benefits or between gasoline taxes and highway funding).

Even then the commitment to earmarking should not be open-ended. The automatic financing arrangement should be reviewed regularly and terminated automatically unless expressly renewed. This would force a review of pricing arrangements, of the quality of investments financed, and of the past and future growth of sector infrastructure relative to needs.

Payroll taxes should cover only social security. Colombia's payroll taxes add 24-29 percent to the cost of labor. Eliminating payroll taxes for non-social-security purposes would lower labor costs and probably take 0.5-1.0 percentage points off the unemployment rate.

Earmarking for PROEXPO, which finances subsidized loans for exporters, should be eliminated. There is little connection between those who pay import duties and those who benefit (exporters or foreign consumers). The level of duty is arbitrary so it is questionable whether the correct amount of export financing is provided, and the large subsidy differences among sectors distort the allocation of resources.

The earmarking of departmental taxes on alcohol, tobacco, and gambling for health, welfare, and sports are particularly strong candidates for elimination. There is no connection between taxpayers and beneficiaries in these arrangements and hence no indication of whether appropriate amounts of funding for these activities is being provided.

The relatively new tax allowance and sales tax transfer have played important roles in the government's effort to decentralize, the former for departments, the latter mainly for municipalities. These revenue-sharing arrangements need to be strengthened by eliminating anomalies in the sharing formulas, introducing more incentives for local resource mobilization, and strengthening municipal capacity to absorb the additional resources.

Earmarking that follows the benefit principle closely (the coffee fund, the gasoline tax, and the municipal valorization tax) can be continued, but in each case, modifications are suggested to make the arrangement work better.

Certain parts of the new Organic Law of the Budget related to earmarking should be implemented quickly — the limits on minibudgets, the prohibition of new earmarking from existing public resources, and the claim of the central budget on public enterprises' operating surpluses.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to improve the evaluation of government expenditure programs and the rationalization of public expenditures. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (88 pages with tables).

426. Growth-Oriented Adjustment Programs: A Statistical Analysis

Riccardo Faini, Jaime de Melo,
Abdel Senhadji-Semlali, and Julie Stanton

There is no statistical evidence that growth was faster — or slower — for countries that received adjustment loans. And there are no signs of sustainable recovery through higher investment — at least through 1986.

What happened to economic performance in developing countries under growth-oriented adjustment programs sponsored by the World Bank and the IMF?

Analyzing data for a sample of 93 countries, Faini, de Melo, Senhadji-Semlali, and Stanton compared the average values of economic indicators for 1982-86 with the corresponding values for 1978-81. They controlled for the external environment and initial conditions and allowed for policies that would have been adopted if the countries had not participated in adjustment.

They found no statistical evidence of faster (or slower) growth for the countries that received loans.

They found that a higher current account surplus and lower inflation during 1978-81 were associated with better investment performance during 1982-86. And that deterioration in the external environment in 1982-86 was associated with lower growth during that period.

They also examined the investment-output relationship for 14 countries that received sizable growth-oriented adjustment loans — estimating the growth forgone because of lower aggregate investment under adjustment.

They conclude that signs of sustainable recovery through higher investment were not evident, at least through 1986. But these results are not surprising, because considerable time must pass for the benefits of structural reform to materialize.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to analyze the sustainability of structural adjustment programs. The paper is part of the research project on trade reform in structural adjustment loans (RPO 675-32). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Maria Ameal, room N10-031, extension 37947 (33 pages with tables).

427. Exchange Reform, Parallel Markets, and Inflation in Africa: The Case of Ghana

Ajay Chhibber and Nemat Shafik

This model using Ghanaian data shows that in the presence of an active parallel market, official devaluation does not cause inflation because prices have already adjusted to the parallel exchange rate. Although structural factors were important in the past, inflation in Ghana has been primarily a monetary phenomenon and the product of weakness in the financial system in recent years.

Adjustment programs typically involve a complex policy package that includes price liberalization, devaluation, and trade policy reforms — together with public enterprise and fiscal reform, including reduced subsidies and rationalization of public spending.

A common concern in these reform packages is the potential inflationary effects of the combination of devaluation, trade liberalization, subsidy reduction, and price decontrol. This issue is critical in Africa, where inflation has accelerated in several countries, particularly those undergoing adjustment.

Some argue that devaluation — an important instrument in IMF and World Bank adjustment programs — is not necessarily the best instrument for real exchange rate devaluation, given its inflationary effects and taking into account the structure of African economies. Some have criticized IMF and World Bank programs as leading to the so-called "Latin Americanization" of Africa.

In Ghana, which has carried out one of the most thorough structural adjustment programs in Africa, an increasingly high inflation rate has been attributed to major devaluations of the official exchange rate. Chhibber and Shafik dispute this conclusion based on careful testing and simulations using a macroeconomic model estimated with Ghanaian data.

The model results show that there is no direct relationship between the official exchange rate and inflation; prices had already adjusted to the exchange rate prevailing in parallel markets.

The results also show that official devaluation had a positive effect on Ghana's budget. Revenue improvements came from three channels: the higher grant aid disbursed at a more depreciated exchange rate, a reduction in the subsidies that had accrued to importers through an overvalued exchange rate, and an increase in export taxes as cocoa farmers increasingly marketed their output through official channels.

The official devaluation therefore did not produce higher budget deficits, de-

mand pressure did not spill onto the parallel market, and the exchange premium narrowed considerably. The key to the success of the program was the adequate level of foreign financing, combined with a coherent set of fiscal policies.

Chhibber and Shafik argue that although inflation had structural causes in the past, the acceleration in recent years is primarily a monetary phenomenon. It also reflects weakness in the financial system that must be tackled to sustain reform.

This paper — a product of the Office of the Vice President, Development Economics — is part of a larger effort in PRE to understand the dynamics of inflation, exchange reform, and price decontrol in Africa. Please contact DECVP, room S9-041, extension 33490 (67 pages with figures and tables).

428. Perestroyka and Its Implications for European Socialist Countries

Bela Balassa

Perestroyka, introduced in the Soviet Union to reform the economy after the "period of stagnation" under Brezhnev, involves combining centralized planning with elements of a market economy. For it to succeed, certain micro and macro conditions need to be fulfilled.

Perestroyka, introduced in the Soviet Union to reform the economy after the "period of stagnation" under Brezhnev, involves combining centralized planning with elements of a market economy. For it to succeed, certain micro and macro conditions need to be fulfilled.

As far as micro conditions are concerned, one should emphasize the interdependence of rational prices, decentralization, profit maximization, incentives, and competition. For commodities produced domestically, the establishment of rational prices requires that prices equate demand and supply. This, in turn, necessitates the decentralization of decision-making and profit maximization by the firm. At the same time, managers would have to be provided with appropriate incentives in order to ensure that firms maximize profits. Finally, there is need for competition to guarantee that profit maximization does not lead to the exploitation of monopoly positions and inflation.

Various macroeconomic conditions also need to be fulfilled for perestroyka to succeed. The government should aim at realistic growth rates, establish a balance between investment and consumption, eliminate the overhang in the market for consumer goods and services, and drastically reduce the budget deficit.

At the same time, the success or failure of perestroyka will have implications for the success of reforms in the European socialist countries. And the performance of these economies will be affected by the increased demand for quality in the Soviet Union. But successful reform efforts on their part will help to meet this demand to exploit the opportunities offered by the vast Soviet market.

This paper — a product of the Office of the Vice President, Development Economies — is part of a larger effort in PRE to examine efforts made in socialist countries to reform their economies. Please contact DECVP, room S9-047, extension 33769 (22 pages).

429. Ghana's Cocoa Pricing Policy

Merrill J. Bateman, Alexander Meeraus, David M. Newbery, William Asenso Okyere, and Gerald T. O'Mara

Ghana's cocoa production declined because of policies that overvalued the domestic currency and heavily taxed cocoa exports. A variable rate tax on cocoa (above the critical level) that increases and decreases with the world price would distribute the price risk between cocoa farmers and the rest of society, stabilize cocoa farmers' real incomes, and let consumers share in windfall profits when world cocoa prices are high.

The long decline in Ghana's cocoa production — from half the market 25 years ago to one-tenth the market now — was associated with policies that overvalued the domestic currency, implicitly taxed cocoa exports, and ignored the realities of world markets.

This study addresses the dilemma Ghana's government faces: how to provide enough producer incentives to stimulate the cocoa exports Ghana needs for foreign exchange while maintaining the government revenues needed to avoid unmanageable fiscal deficits. The key may be identifying acceptable revenue alternatives to cocoa export taxes. Among conclusions the authors reach:

To maintain the right price incentives in the cocoa subsector, the exchange rate regime should be liberalized so that the prevailing rate always roughly equals the equilibrium level.

The government should explore shifting taxes from cocoa producers to all consumers by increasing taxes on appropriate consumer goods — especially those that are income elastic and price inelastic (such as gasoline, cars, and consumer durables).

A policy of low cocoa taxes and high cocoa production favorably affects the rural poor. Taxing cocoa farmers directly lowers their income, indirectly lowers the income of food producers, and transfers incomes from those farmers to food consumers —worsening income distribution.

It would probably help to stabilize the real producer price of cocoa. An attractive alternative is a variable rate tax on cocoa (above the critical level) that increases and decreases with the world price and would distribute the world market price risk between cocoa farmers and the rest of society (assuming revenue requirements are fixed). This would stabilize the real incomes of cocoa farmers and let consumers share in windfall profits from high cocoa prices.

The yearly cocoa buying price should always be set above 140 cedis (in 1987 prices) if the objective is to stimulate growth in long-term supplies.

COCOBOD should terminate its marketing activities for coffee, and all taxes on coffee exports should cease. Even with heavy taxation, net revenue from coffee is negative to the government under the current arrangement. Stopping coffee taxes would give coffee producers a stronger incentive to expand production, particularly where swollen-shoot virus infestation has reduced profits from cocoa production.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to analyze the economics of perennial crops and thus provide policy guidelines for efficient agricultural development. Please contact Cicely Spooner, room N8-039, extension 30464 (214 pages with figures and tables plus 103 pages of annexes).

430. Rural-Urban Growth Linkages in India

Peter B. Hazell and Steven Haggblade

Improving the nonfarm response to growing demand from agriculture calls for appropriate growth in agricultural technology, adequate investments in rural infrastructure, and the avoidance of policies that discriminate against small, labor-intensive businesses in favor of their larger, capital-intensive cousins.

Using two models — an econometric analysis of cross-sectional data on states and districts and a semi-input-output model fitted to a national input-output table for 1979/80 — Hazell and Haggblade analyze the relationship between agricultural growth and growth in the rural nonfarm economy. They conclude that:

Because of strong links to agricultural growth, rural nonfarm income and employment will both grow faster than their agricultural counterparts. A sustained agricultural growth rate of 2.4 percent (the past trend) will lead to 3.0 percent growth in nonfarm income in rural areas and towns and 2.8 percent growth in nonfarm employment. If agriculture grows 4 percent, these rates increase to 5.8 percent and 4.0 percent, respectively.

Continued growth in agricultural output is unlikely to provide the growth in productive employment required to absorb projected increases in the rural labor force. The employment gap will increase if irrigation plays a decreasing role in agricultural growth. Secondary rounds of growth in the rural nonfarm economy could bridge this gap given moderate agricultural growth.

Export and domestic urban demand must play an important role if manufacturing is to continue to grow 8 percent a year. Despite the strength of the rural-urban linkages, agricultural growth alone cannot provide enough market to sustain rapid growth in India's manufacturing sector. An agricultural growth rate of 2.4 percent a year will generate only 1.8 percent (if irrigated agriculture) to 1.9 percent (if rainfed agriculture) growth in national manufacturing output. Even 6 percent growth in agriculture will generate only about 5.5 percent growth in manufacturing output.

Agricultural growth will lead to expansion in high-value agricultural output, especially livestock and horticultural products. Increased production of these labor-intensive products should especially benefit the poor.

The size of the agricultural income multipliers depends primarily on the level of per capita agricultural income, but public policy can affect their magnitude. They are positively related to the development of such rural infrastructure as roads, electrification, and banking services. They are stronger under irrigated than rainfed agricultural growth and larger for small- to medium-size farms than for larger farms.

Improving the nonfarm response to growing demand from agriculture calls for appropriate growth in agricultural technology, adequate investments in rural infrastructure, well-developed rural towns, and the avoidance of tax, regulatory, or licensing policies that discriminate against small, labor-intensive businesses in favor of their larger, capital-intensive cousins.

This paper, a background paper for the FY1991 Country Economic Memorandum for India, is a product of the Agricultural Policies Division, Agriculture and Rural Development Department and is part of a larger effort in PRE to learn more about the indirect effects of agricultural growth on the rural nonfarm economy, and how the value of the income and employment benefits can be enhanced for the poor. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-039, extension 30464 (79 pages with tables).

431. Recent Developments In Marketing and Pricing Systems for Agricultural Export Commodities in Sub-Saharan Africa

Panos Varangis, Takamasa Akiyama, and Elton Thigpen

Privatization of marketing and the adoption of free-market pricing is easier under the caisse *system than under the monopolistic marketing board system. A progressive export tax system, based on a market-determined price, can ease the transition from a fixed producer pricing system to a free-market pricing system.*

Varangis, Akiyama, and Thigpen document the difficulties various countries in Sub-Saharan Africa have had with marketing and pricing systems, and show how these systems have been caused or exacerbated by government controls. They document the steps several countries have taken toward relaxing those controls and allowing more participation by private enterprise.

They draw some general conclusions about the kinds of changes in parastatal marketing organizations that most effectively improve their ability to market crops efficiently and cope with changes in world prices:

The path a country should take toward more private sector participation depends heavily on the form of marketing and pricing system that exists and the time needed to develop needed skills in the private sector.

Complete or increased privatization of marketing and adoption of free-market pricing is easier under the *caisse* system than the *marketing board* system. Under the caisse system, the private sector already handles domestic and export marketing — so the transition essentially involves increasing competition in an existing private sector (step A).

Under the monopolistic marketing board system, countries should identify activities (such as processing) that can be performed immediately by the private sector and take steps to transfer those steps to the private sector (step B).

In countries with a marketing board system and a weak private sector, export and domestic marketing can initially be shared by the boards and the private sector, with boards acting as "buyers of last resort." Over time the boards should be treated as just another of the marketing agencies competing with the private sector (step C).

After taking steps B and C, marketing boards will be like caisses and in time can take step A.

If an immediate change from a fixed producer pricing system to a free-market pricing system is not feasible or is judged undesirable, a gradual transition can be made by implementing a progressive export tax system that is more progressive in the initial stages.

This paper — a product of the International Commodity Markets Division, International Economics Department — is part of a larger effort in PRE to understand the impacts of various kinds of primary commodity marketing and pricing systems and how best to change to

more efficient systems. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Dawn Gustafson, room S7-044, extension 33714 (69 pages with charts and tables).

432. Policy Choices in the Newly Industrializing Countries

Bela Balassa

The Far Eastern newly industrializing countries (Hong Kong, Korea, Singapore, and Taiwan) achieved much larger increases in per capita incomes than their Latin American counterparts (Argentina, Brazil, Chile, and Mexico) in the 1963-88 period. Differences in economic growth rates find their origin in differences in savings ratios and investment efficiency.

While savings rates differed little between the two groups of countries between 1963 and 1973, these ratios increased substantially in the Far Eastern NICs in subsequent years as they employed measures encouraging savings. Similar increases did not occur in Latin America where the policies applied were not favorable to savings.

Investment efficiency was higher in the Far Eastern NICs than in the Latin American NICs throughout the period. The Far Eastern NICs achieved high levels of investment efficiency in the framework of an open economy, with high and rising ratios of exports to the gross domestic product. Export expansion involved an increasing shift toward manufactured goods.

Exports in the Far Eastern newly industrializing countries were promoted by the system of incentives that entailed no discrimination, or little discrimination, against exports. These countries also relied to a considerable extent on export promotion in response to external shocks and did not engage in excessive foreign borrowing.

The experience of the Far Eastern and Latin American newly industrializing countries provides important lessons to other developing countries. It indicates the superiority of outward-oriented policies that provide similar incentives to exports and to import substitution. It also shows that the continuation of outward-oriented policies permits overcoming the effects of external shocks while reliance on external borrowing reinforces the adverse effects of these shocks.

This paper — a product of the Office of the Vice President, Development Economics — is part of a larger effort in PRE to understand the economic policies in the developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact DECVP, room S9-047, extension 33769 (18 pages with tables).

433. The Pervasive Effects of High Taxation of Capital Goods in India: Findings and Conclusions from a Sample of Projects

Francois Ettori

India's heavy duties on capital goods blur the incentive signals from the tariff structure. In practice, that structure favors import substitution of intermediate products from heavy industry and discourages exports. The complex protection structure should be simplified, with priority to slashing the duties on capital goods.

Some 60 industrial projects (chiefly in the chemical and engineering subsectors) financed by the Development Finance Institutions in India in 1988 and 1989 were analyzed. The major finding is that levying the heaviest duties on imported capital goods has deeply distorted industrial incentives and harmed industrial competitiveness and exports.

With tariffs on capital goods averaging 80 percent (except for electronic industries equipment which pays about 40 percent), Indian projects are generally 40 to 50 percent more expensive than they would be under free trade, and up to 80 percent more expensive in capital- intensive projects.

The high investment costs require a compensatory effective protection averaging 30 percent to allow industrial projects to earn returns at least equal to those available under free trade. However, about half the projects (generally those producing final goods) receive effective protection significantly lower than the compensatory effective protection, and generate lower profits than those of foreign competitors.

Nominal protection varies widely between subsectors — from 25 percent for final goods industries to 60 to 65 percent for industries producing intermediates and inputs for downstream subsectors — and within each subsector.

Nominal protection rates (as reflected by domestic to world price ratios), averaging 40-50 percent, are substantially lower than average tariff collection rates (60-70 percent) and much lower than official tariffs (120-140 percent). The wide variations in protection reflect a complex system comprising many exemptions and ad hoc tariffs.

Tariff reform is urgently needed. Tariffs should primarily provide protection and incentives, with only a secondary function of generating public revenue. First, tariffs should be slashed, and imports liberalized, on capital goods, toward a uniform tariff of 25 percent and full exemption for projects exporting at least half of output. For intermediates and other inputs, most tariff exemptions should be eliminated, import regimes unified, and tariffs aligned on collection rates toward reduced levels averaging 40 percent.

Public revenue should be generated increasingly through trade-neutral instruments (profit taxes and indirect taxes such as MODVAT and consumption VAT).

This paper — a product of the Industry and Finance Operations Division, Asia Regional Office, Country Department IV (India) — is part of a larger effort to undertake a comprehensive review of India's trade regime and policies and to make recommendations for liberalization of trade policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Francois Ettori, room D10-049, extension 80324 (39 pages with graphs and tables).

434. Tax Sensitivity of Foreign Direct Investment: An Empirical Assessment

Anwar Shah and Joel Slemrod

Developing countries with heavy foreign direct investment need not worry about providing special tax incentives for foreign investment. But they must be sure that their tax system is competitive with the home tax regime of a marginal investor who has access to foreign tax credits against domestic tax liabilities.

The tax sensitivity of foreign direct investment (FDI) has important policy implications for developing countries.

If FDI is not responsive to taxation, it may be an appropriate target for taxation by the host country, which can raise revenue without sacrificing any economic benefits from FDI.

Shah and Slemrod examine this question for Mexico by modeling the tax regimes in Mexico and the home country of a marginal investor, the credit status of U.S. multinationals, country risk factors, and regulatory and trade regimes in Mexico.

They conclude that the FDI in Mexico is sensitive to the Mexican and U.S. tax regimes, to the multinationals' credit status, to country credit ratings, and to the regulatory environment.

So Mexico's current policy of dismantling regulations and having a tax regime competitive with that in the United States is expected to improve FDI in Mexico.

Mexico must aim for tax rates similar to those in the United States to eliminate any tax-induced disincentives for investment and to ward off any possible transfer of revenues from Mexico to the U.S. treasury through U.S. foreign tax credit provisions.

A potential investor might find Mexico's new 2 percent assets tax, because of its partial noncreditability against U.S. tax liabilities, a cause for concern. An alternative minimum tax on an adjusted base that includes tax preferences as part of taxable income could achieve the same purpose but would probably be fully creditable against U.S tax liabilities.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to promote sound public policies in the development of the private sector in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (41 pages with figures and tables).

435. Rational Expectations and Commodity Price Forecasts

Boum-Jong Choe

Forecasts for the primary commodity market by the Bank's International Commodity Markets Division — with significant but not excessive adaptation to spot-price movements — probably are reasonable, optimal short-term forecasts, superior to "naive" forecasts or futures prices.

Forecasts of primary commodity prices, which the Bank's International Commodity Markets Division has been preparing for more than two decades, are used mainly for project evaluation and balance-of-payments projections for developing countries. There has been some concern about their accuracy. Until very recently, the majority of studies of both survey expectations and futures prices, including previous retrospective studies of the division's price forecasts, found that expectations are formed irrationally and inefficiently. Lately, however, attempts have been made to explain the sources of forecast biases to put the irrationality of expectations in question.

Choe takes a new look at these forecasts in light of recent theoretical and empirical work on the formation of expectations. The forecast data analyzed are one year-ahead forecasts made for 10 commodity prices over the 1979-88 period. His main findings are:

- The division's forecasts tend to show positive forecast errors — overestimating future spot prices.
- Among the expectations models estimated, the adaptive expectations model appears to describe the division's forecast behavior most closely.
- The division's forecasts are stabilizing, whatever the expectations model used. There are no indications of "bandwagon" behavior.
- The division's forecasts are far from static since they put much less weight on current spot prices than other expectations data — they are not as adaptive as others to the latest price changes.
- The rationality of the division's forecasts cannot be rejected.

This paper — a product of the International Commodity Markets Division, International Economics Department — is part of a larger effort in PRE to understand the short- and long-run behavior of primary commodity prices and the implications of movements in these prices for the developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sarah Lipscomb, room S7-062, extension 33718 (22 pages with tables).

436. Commodity Price Forecasts and Futures Prices

Boum-Jong Choe

Commodity futures prices have biases due to risk premia and expectational errors, thus limiting their usefulness as a short-term price forecasting tool. Also, futures prices are more adaptive to spot price movements than price expectations, but not necessarily more rational.

Choe investigates the relationship between commodity futures prices and price expectations, to determine the usefulness of futures prices as a short-term price forecasting tool.

Previous studies of forecasts from the Bank's International Commodity Markets Division found evidence that commodity specialists' forecasts are outperformed by "naive" (static) forecasts, which will hold if commodity markets are efficient. On the other hand, futures prices also have shown biases, typically underforecasting subsequent spot prices. Some researchers attribute this futures discount bias to time-varying risk premia. Others assume that agents are risk-neutral and that biases reflect market inefficiency and the failure of rational expectations.

The informational value of futures prices for forecasting depends on the size of the risk premium relative to the expectational error. A recent study found that expectational errors dominate the forward discount bias of the foreign exchange rate and that the risk premium is small, relatively stable, and uncorrelated with the expectational error.

Choe investigates whether commodity futures prices exhibit similar characteristics. He also estimates a relationship between futures prices and price expectations. His main findings include:

- The rational expectations hypothesis is more widely rejected with futures prices than with the division's forecasts.
- Risk premia and expectational errors are equally important in explaining the futures forecast bias — so futures prices have to be adjusted for risk premia to be useful for short-term forecasting.
- The variance of risk premia is not larger than that of expected price changes for most commodities.
- The risk premium appears to be correlated with the futures discount for at least half the commodities.

• Futures prices are more heavily influenced by current spot prices than by expected future prices.

This paper — a product of the International Commodity Markets Division, International Economics Department — is part of a larger effort in PRE to understand the short- and long-run behavior of primary commodity prices and the implications of movements in these prices for the developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sarah Lipscomb, room S7-062, extension 33718 (23 pages with charts and tables).

437. Institutional Development Work in the Bank: A Review of 84 Bank Projects

Cheryl W. Gray, Lynn S. Khadiagala, and Richard J. Moore

Institutional development work in Bank projects can be improved through careful attention to staffing, organization, work assignments, and managerial commitment.

To assess the quality of institutional development (ID) work in recent Bank projects, and the factors affecting that quality, Gray, Khadiagala, and Moore reviewed the design of 84 projects approved by the Board in 1988. They found the following:

The Bank's record on ID is mixed. ID treatment was judged good in 43 percent of the projects, adequate in 24 percent, and weak in 33 percent. ID treatment tended to be better in investment projects — particularly in infrastructure, energy, and human resources — than in adjustment loans. Among regions, Asia and Africa had a larger percentage of well-designed loans than EMENA and LAC.

Of the people working on ID issues, 44 percent were technical specialists, 27 percent were economists, 18 percent were lawyers, financial analysts, project officers, or country officers, and 11 percent were people with specialized ID training. Consultants played only a minor role except in agricultural projects.

Several staff characteristics appear to affect the quality of ID treatment in the design of Bank projects. First, technical and institutional specialists appear to do a better job than economists on average. This finding supports the view that institutional analysis is a speciality distinct from economics, and that specialized training — whether in a technical specialty or in disciplines such as public administration or social sciences other than economics — can improve one's ability to analyze institutions and design ID interventions. Second, the data strongly suggest that more experienced people tend to do better ID work. While experience and educational background are highly correlated, each appears to make an independent contribution to the quality of ID treatment. Third, country experience adds considerably to the quality of ID work.

These findings lead the authors to make several recommendations. First, specialized public sector management divisions can be useful in improving the Bank's ID work in adjustment and technical assistance loans, but they are no substitute for expertise and sensitivity to ID concerns within the country departments themselves (ideally through the inclusion of at least one ID specialist on the staff of each such department). Second, the Bank should continue to emphasize sector-specific training and experience — particularly line management experience — in hiring staff for the sector divisions. Third, resident missions should play more of a role in project design and supervision than they do now. Fourth, greater emphasis on project supervision is needed. Few incentives now exist for good supervision, and responsibility for project outcomes appears to be weak.

Finally, the Bank's best institutional work is done when managers are most committed to ID goals. Managers can improve the quality of ID work by giving clear signals — through hiring practices, work assignments, policy papers, speeches, and (most important) reviews of individual loans — that ID is crucial to the Bank's mission of promoting development.

This paper — a product of the Office of the Vice President, Development Economics — is part of a larger effort in PRE to understand and support the process of institutional development in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Lois Lockyer, room N6-037, extension 36969 (27 pages with boxes and tables).

438. How Redistribution Hurts Productivity in a Socialist Economy (Yugoslavia)

Milan Vodopivec

In socialist economies, profitable firms are taxed to subsidize unprofitable ones, and productive workers subsidize unproductive workers. Yugoslav firms, Vodopivec concludes, produce less because of both types of redistribution.

Socialism as practiced in Eastern Europe is characterized by massive income redistribution. Vodopivec focuses on (1) interfirm redistribution, consisting of taxing profitable firms in order to subsidize unprofitable ones, and (2) intrafirm redistribution, consisting of the compression of personal income differentials within a firm.

Vodopivec constructs a theoretical model of redistribution of income as practiced in Yugoslav firms. Empirical results lead him to conclude that efficiency in production could be improved at no cost if such redistribution were abolished. Furthermore, economies in which much of GNP is redistributed through bargaining are bound to be inefficient also in distribution — because some groups are less able to represent their common interests than others. Contrary to a common belief, socialist countries can not be praised on the count of equity either.

Increasing wage differentials may not be too controversial or difficult a task in Yugoslavia. More difficult will be the issue of interfirm transfers, and to prevent them the government should:

• Stop subsidizing enterprises (from either government or enterprise sources).

• Make the fiscal system unselective and transparent (apply uniform tax rates, unburden enterprises of parafiscal "financial investments," and reduce the system's technical complexity by reducing the variety of taxes enterprises pay).

• Impose positive interest rates (in real terms) on any kind of loan — for example, by indexing debts.

Vodopivec claims that socialist countries lack adequate mechanisms to prevent such redistribution — that ill-defined property rights, together with a monoparty political system, generate such redistribution. Changing that means introducing new mechanisms to:

• Provide alternative services on the

basis of *impersonal* (market) decisionmaking, thus supplanting bargaining between interest groups, where feasible.

• Where impersonal decisionmaking is not feasible (as in fiscal and monetary policy), supplement current institutions by providing checks and balances in political decisionmaking.

The peaceful revolutions in Eastern Europe have removed political obstacles to introducing such changes, but implementing them may be a long, painful process.

Interfirm and intrafirm redistribution should be abolished and a social safety net established — one that does not hamper efficiency (as in Sweden). Dethroning all old institutions in socialist countries in a "great leap," however, might be like throwing out the baby with the bath water. Many institutions deserve abandonment, but in a radically changed environment, worker participation in profit-sharing and decisionmaking may increase productivity, as it does in developed market economies.

This paper — a product of the Socialist Economies Division, Country Economics Department — is part of a larger effort in PRE to investigate the behavior of firms in socialist economies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Julia Lutz, room N6-037, extension 36970 (39 pages).

439. Indicative Planning in Developing Countries

Bela Balassa

The lack of success of planning, together with the growing understanding of the importance of incentives and markets, have contributed to the decline of planning in the 1980s. The question remains, then, what should the role of the public sector in developing countries be?

Indicative planning involves the establishment of sectoral targets which are not compulsory for the private sector and are imbedded in macroeconomic projections that pertain to a period of several years. Indicative planning has been widely practiced in developing countries during the postwar period. At the same time, the review of the experience of these countries indicates that it failed to have favorable economic effects while utilizing scarce administrative resources.

The lack of success of planning, together with the growing understanding of the importance of incentives and markets, have contributed to the decline of planning in the 1980s. The question remains, then, what should the role of the public sector in developing countries be? This question may be addressed by considering the choice between public and private enterprises in the manufacturing sector, the size of the government, the implications of public investments, and the evaluation of public sector projects.

Available evidence indicates the superiority of private enterprises over public enterprises. It further appears that increases in the size of the government adversely affect growth performance in developing countries. Finally, increases in the share of public investment tend to be associated with a decline in the share of total investment in GNP and with a fall in investment efficiency.

Nevertheless, there is evidence that infrastructural investments favorably affect private investment. At the same time, such investments should be subject to rigorous project evaluation so that appropriate choices may be made among alternative investments. They should also be based on multiannual programs. Thus, the usefulness of planning re-emerges in the confines of public sector investment in infrastructure.

This paper — a product of the Office of the Vice President, Development Economics — is part of a larger effort in PRE to study development policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact DECVP, room S9-047, extension 33769 (23 pages).

440. Financial Sector Policy in Thailand: A Macroeconomic Perspective

William Easterly and Patrick Honohan

How well Thailand's financial sector can provide the investible funds demanded by the country's current boom depends partly on its ability to mobilize savings — through official policy on credit allocation and through the movement of capital internationally.

Thailand's recent boom has been accomplished in an economy open to external forces. Despite the fiscal correction achieved in 1986-89, expansion of domestic demand made itself felt in a widening of the current account deficit. This deficit partly reflects the need for a surge of capital spending to develop export prospects and to provide the necessary infrastructure — but care must be taken that investment not get too far out of line with the economy's long-term savings potential.

How well the country's financial sector can provide the investment funds the boom demands depends partly on its ability to mobilize savings, on official policy about credit allocation, and on the degree to which capital is free to flow internationally.

Resource mobilization in Thailand is impressive: its liquidity ratio is surpassed in only a handful of developing countries.

There are some selective credit measures — mainly favoring agriculture, agribusiness, and commodity exports — but these are either relatively small in scope or tend to be only partly enforced, so they distort the allocation of credit only slightly. A number of quasi-fiscal requirements add about 1.5 percentage points to gross banking spreads.

The interest-rate ceilings on bank loans have probably lowered the cost for some nonprime borrowers but may have increased rates for others and excluded some high-risk borrowers.

Capital movements are restricted, and there is evidence that domestic monetary conditions have a short-run effect on wholesale interest rates. But wholesale interest rates tend to converge to foreign levels in the medium term, suggesting that monetary policy has only a short-term effect.

Easterly and Honohan make recommendations for developing monetary policy instruments and for recasting and reducing quasi-fiscal and credit allocation impositions on the financial system.

This paper — a product of the Macroeconomic Adjustment and Growth and Financial Policy Divisions, Country Economics Department — is part of a larger effort in PRE to analyze links between macroeconomic policy and financial sector performance. This work is related to a research project on the macroeconomic consequences of public sector deficits. Copies of this paper are available free

from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Raquel Luz, room N11-057, extension 34303 (68 pages with figures and tables).

441. Inefficient Private Renegotiation of Sovereign Debt

Kenneth M. Kletzer

Private renegotiation of debt repayments and new loans is inefficient because of the creditors' seniority privileges and lack of commitment and the inadequate information creditors have about debtors' policy choices.

The negotiation of sovereign debt repayments and of new loans after default may yield inefficient outcomes that justify intervention by creditor country governments and international financial institutions. Kletzer analyzes possible distortions arising in renegotiations between private creditors and sovereign borrowers. He argues that legal privileges accorded to existing creditors in their home jurisdictions can distort the flow of resources for capital formation abroad. Seniority privileges for old lenders convey to them some of the social returns from new lending, reducing the potential rewards for those who might provide the new funds.

A simple dynamic model is presented in which the motivation for borrowing from abroad is to smooth consumption over time when national income is subject to random fluctuations. The borrower cannot commit to make future repayments to creditors due to sovereign immunity. Payments are made by the borrower to avoid credible suspensions of access to consumption-smoothing opportunities. These are imposed in the future, in contrast to a repeated static model in which sanctions are traded for payments contemporaneously.

Time inconsistency arises because lenders cannot commit to accept future net resource transfers which, in some contingencies, they will wish to renegotiate. Therefore, renegotiation of simple debt contracts *ex post* need not lead to the equilibrium path achieved using state-contingent contracts when commitment is possible. New capital inflows to heavily-indebted countries will not be forthcoming when further lending is socially efficient. The bargaining conduct in renegotiations of a long-term relationship between lenders and a borrower depends on the commitment opportunities of lenders and their legal privileges vis-a-vis other lenders. Cooperative equilibria can be unattainable for the coalition of lenders due to institutional distortions. The importance of legal institutions within and across creditor countries for efficiency of renegotiations is discussed at length.

Informational asymmetries are an additional source of distortions in the resource allocation sustained through bargaining over repayments and new loans. Because a borrower may be able to conceal that she would be willing to repay as contracted, she may be able to renegotiate debt-service obligations to her advantage. In an equilibrium with imperfect information about debtor characteristics, the loan and renegotiation offers made by lenders anticipate this possibility leading to less initial lending and a faster build-up of a debt overhang.

The paper also presents a model of strategic bargaining with asymmetric information about the debtor government's social preferences to capture the constraints that the domestic political environment imposes on debt-servicing. Creditors may delay agreement to elicit private information, and the consequent suspension of inflows leads to a socially inefficient capital accumulation path in this dynamic model.

The analysis stresses the distinction between explicit contracts with state-contingent repayment schedules and long-term relationships created by simple contracts that exchange resources for an ability to impose sanctions whose value is negotiated ex post. Because institutions created by creditor country governments convey legal privileges that distort the allocation of resources in the bargaining process, the paper urges investigation of official alienation of these privileges, regulatory reform, and introduction of alternative financial instruments that embody opportunities for creditor commitment.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to determine the conditions under which debtor countries benefit from debt and debt service reduction operations. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 31047 (57 pages).

442. Indian Women, Health, and Productivity

Meera Chatterjee

Documentation of the interaction of Indian women's poor health status and low productivity and evidence that raising the economic value of women is ultimately the most effective way of improving their health.

To overcome constraints on Indian women's access to health care requires social interventions (freeing women to seek health care), economic interventions (improving the opportunity costs of their doing so), and service interventions (making relevant health care services more easily and widely available).

Over the long term, the most effective means of improving women's health and reducing fertility levels are those that will raise the perceived economic value of women.

Among the other issues discussed in this major report are the following:

Women get less to eat than men, which limits their physical development, reproductive success, and productivity. The cycle of malnutrition produces low birth weight and low infant and maternal survival — which encourages another round of high fertility and attendant stress on the women and on society's resources.

Efforts to improve women's participation in the labor force should be linked to efforts to provide support facilities for child care and maternal and child health.

The critical target group for fertility planning is rural adolescent girls, who must be given educational and vocational opportunities and prepared for marriage and motherhood. Half of all rural girls aged 15 to 19, and 44 percent of *all* girls in this age group, are married. Providing more and better education and employment for girls and women is an important strategy for delaying the marriage age and reducing fertility and infant mortality.

In the short term, the most effective means of improving women's health is to increase the number and improve the training and deployment of village-based health care workers (mainly women) and

their ability to deliver health care services to women in their homes.

One way to strengthen the function and local connections of these women might be to organize their services and training around a single major health intervention: distributing iron-folate tablets to control anemia, which affects more than 60 percent of Indian women. Anemia increases women's susceptibility to illness, complications in pregnancy, maternal deaths, and survival, generally. Thus it lowers their productivity.

Improving health, nutrition, and family planning services — all three together — will improve the balance between the energies women expend in production and reproduction and their rewards.

This paper — a product of the Women in Development Division, Population and Human Resources Department — is part of a larger effort in PRE to understand the linkages between improving women's access to education, extension training, credit, health care and other public resources, and increasing women's productivity and thus family welfare. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Rose Vo, room S9-125, extension 35108 (130 pages, with figures and tables).

443. The Inflation-Stabilization Cycles in Argentina and Brazil

Miguel A. Kiguel and Nissan Liviatan

The repeated use of price and wage controls is likely to destabilize inflation in the medium run. The similar cyclical pattern of inflation observed in the aftermath of the failures of the Austral plan in Argentina and the Cruzado plan in Brazil is mostly linked to anticipations about the introduction of price controls. The heterodox approach is risky if not accompanied by an adequate adjustment in the budget deficit.

The Austral plan in Argentina and the Cruzado plan in Brazil were the first stabilization programs in recent years that succeeded (albeit temporarily) in drastically reducing inflation in the short run. They also had a lasting effect in the sense of changing the pattern of inflation in both countries.

Before these programs, inflation was higher, more unstable, and more clearly fiscal in Argentina than in Brazil. These differences all but disappeared after the Austral and Cruzado programs, as both countries underwent similar inflation-stabilization cycles.

There is a pattern to those cycles. Inflation falls dramatically in response to a stabilization program based on wage-price controls and remains low for months. Then inflation accelerates as controls are removed and eventually becomes explosive, often reaching hyperinflationary levels. A new round of controls sets the stage for the new cycle.

Kiguel and Liviatan address the question of why neither country succeeded in sustaining a high but *stable* rate of inflation.

In their view, the type of instability that emerged after the failure of the heterodox shocks came about because the countries relied heavily on income policies to stop inflation. The repeated use of these controls, together with firms' and workers' pessimism about future government actions, caused the instability.

One of the main problems in these countries is to establish a minimum degree of credibility in the government's disinflationary policies and in the sustainability of the fiscal adjustment, something no stabilization program has done in Argentina in the last 30 years.

Presumably this will require implementing basic fiscal reform aimed at convincing the public that adjustment is sustainable. Relying on high public sector prices and a fall in real wages during the freeze is not enough because these measures are not immune to inflationary shocks.

It is also necessary to restore credibility in the governments' commitment to stand behind the nominal anchors, whatever the cost. This is a different kind of credibility issue. The governments must be willing now to maintain the announced exchange rate or monetary target even if pessimistic expectations result in overvalued currency or high real interest rates.

Given their cyclical recent histories, there is no way to avoid the confrontation between pessimistic expectations and the effort to set nominal anchors. This confrontation will result in a monetary crunch or in overvaluation of the currency, depending on whether the monetary supply or the exchange rate is used as an anchor.

In either case, growth will suffer in the short or medium run.

Argentina and Brazil should shift toward orthodox stabilization programs and avoid price controls (particularly a wage-price freeze in the private sector) to restore credibility to conventional anchors.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to examine stabilization policies. It was funded by the research project "Stopping High Inflation" (RPO 674-24). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Raquel Luz, room N11-057, extension 34303 (35 pages with figures and tables).

444. The Political Economy of Inflation and Stabilization in Middle-Income Countries

Stephan Haggard and Robert Kaufman

Macroeconomic stability is most precarious, and stabilization most likely to be delayed, where the party system is fragmented or polarized.

Drawing on case studies of 58 episodes of inflation and stabilization in 17 middle-income Latin American and Asian countries, Haggard and Kaufman analyzed the political economy of inflation and stabilization. They concluded that political factors that affect macroeconomic stability and stabilization efforts include populist movements, elections, and pressures from interest groups.

Macroeconomic stability is most precarious, they found, where the party system is fragmented or polarized, reinforcing social and economic cleavage among contending groups and exacerbating political instability. Stabilization is invariably delayed in such a setting.

Where rates of inflation are low or moderate, democratic and authoritarian governments seem equally capable of implementing stabilization policies. In this sample, virtually all high inflation was brought down only under the auspices of authoritarian regimes — underscoring the challenges facing the newly democratizing Latin American and Central European governments.

These cases suggest, however, that institutional arrangements that insulate economic decisionmaking from partisan conflict can contribute to successful stabilization under democratic auspices.

This paper— a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to understand the political economy of stabilization and structural adjustment. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Aludia Oropesa, room N11-019, extension 39176 (64 pages with tables).

445. Pricing, Cost Recovery, and Production Efficiency in Transport: A Critique

Rachel E. Kranton

Public sector pricing policies may undermine incentives to reduce costs. Therefore measures to promote cost reduction should be part of any pricing policy reform designed to increase cost recovery.

Drawing on developments in industrial organization and analyzing the U.S. experience in reforming Conrail, Kranton emphasizes that policies to reform public enterprises should first promote cost reduction. Pricing policies aimed at cost recovery should be undertaken only in conjunction with general enterprise reform, to ensure that the pricing scheme does not undermine the enterprise's financial and operational discipline.

Kranton discusses five sources of inefficiency in public transport:

- The goals of the enterprise or the regulation of its operations.
- The structure of the output market.
- The control mechanism between government and the enterprise.
- The managerial incentive structure.
- The conditions of employment.

Even when public enterprises are bent on maximizing consumer welfare, costs are not necessarily minimized. Control mechanisms that allow for asymmetric information between layers of management and provide performance incentives encourage efficiency. Regulation may cause inefficiency by distorting incentives and creating protected markets. And enterprises that operate in uncompetitive markets may face little pressure to operate efficiently.

Lack of competition may also exacerbate the problem of asymmetric information between owners and managers. Owners of public firms — citizens and taxpayers — are unlikely to exert pressure on public enterprises to operate efficiently. And public firms may be protected from insolvency by "soft" budget constraints.

Kranton points out the need for an integrated theory of public production (to help formulate policies to minimize costs) and more empirical work to explain the differences in costs between public and private enterprises.

This paper — a product of the Transport Division, Infrastructure and Urban Development Department — is part of a larger effort in PRE to improve policies on pricing, cost recovery, and efficient resource use in transport. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Wendy Wright, room S10-055, extension 33744 (45 pages).

446. MEXAGMKTS: A Model of Crop and Livestock Markets in Mexico

Gerald T. O'Mara and Merlinda Ingco

The MEXAGMKTS model allows an exploration of the effects on individual commodity markets of Mexico's domestic macroeconomic policies or of the macroeconomic and sectoral policies of Mexico's trading partners.

The genesis of the model MEXAGMKTS was the perception that agricultural policies in Mexico (and many other countries) are often second-best responses to the negative side effects of broad macroeconomic and international trade policies.

MEXAGMKTS was designed to allow analysis of the relationship between such agricultural policies and different macroeconomic and international trade regimes. MEXAGMKTS is part of a set of interlinked macroeconomic and sectoral models of Mexico and the United States (with enough specifications for the rest of the world to close the system).

O'Mara and Ingco discuss the historical context in which MEXAGMKTS was developed as well as its economic structure, estimates, and validation. They present a stand-alone, counterfactual application of a trade liberalization scenario for Mexico.

The conclusion: If human consumption is the welfare criterion, trade liberalization improves the average consumption possibilities for the Mexican people. Lower prices for maize and soybeans shift consumption possibilities outward, with an increased price for sorghum offset by efficient input substitution in livestock production.

The cost of this improvement is significantly less domestic production of maize and more variation in producer prices for maize and sorghum. As a result, maize imports may reach very high levels on occasion. For a government that prefers to produce most of a major food grain domestically, this may be a high price to pay. But in the long term, the food security cost of maize imports appear to be much lower.

This paper — a product of the Agricultural Policies Division, Agricultural and Rural Development Department — is part of a larger effort in PRE to understand the dependence of domestic agricultural markets on domestic macroeconomic policy and the macroeconomic and trade policies of major trading partners. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-035, extension 30464 (61 pages with graphs and tables).

447. Analyzing the Effects of U.S. Agricultural Policy on Mexican Agricultural Markets Using the MEXAGMKTS Model

Gerald T. O'Mara

This model simulation suggests that prices and trade in Mexican agricultural production are sensitive to policy changes in U.S. agriculture under a scenario of trade liberalization for Mexico.

O'Mara uses results from simulations of the FAIRMODEL, USAGMKTS, and MEXAGMKTS models to analyze the effects of changes in U.S. agricultural policy on Mexican agricultural markets.

He concludes that under a scenario of trade liberalization for Mexico, Mexican agricultural production, prices, and trade

are quite sensitive to agricultural policy changes in the United States.

Plausible changes in U.S. agricultural variables (of 10 percent, say) indicate possible changes of 10 to 15 percent in the border prices Mexico faces.

The extent of such changes depends on the state of the agricultural sectors and macroeconomies in the United States and the rest of the world. And the magnitude and direction of the Mexican response depends on the state of Mexico's macroeconomy and agricultural sector.

The ability to discern the effects of a given policy change in the United States, although difficult, would be of significant value to Mexican policymakers under trade liberalization.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to understand the dependence of domestic agricultural markets on domestic macroeconomic policy and the macroeconomic and trade policies of major trading partners. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-035, extension 30464 (23 pages with tables).

448. A Model of U.S. Corn, Sorghum, and Soybean Markets and the Role of Government Programs (USAGMKTS)

Richard E. Just

This estimated model of corn, sorghum, and soybeans markets (USAGMKTS) serves as the U.S. agricultural sector in a study of the effects of U.S. agriculture and macroeconomic policy on Mexico's agricultural sector.

This model of U.S. corn, sorghum, and soybeans markets also includes U.S. markets for beef, hogs, and poultry — because of their importance and endogeneity with respect to U.S. feed grain policies, which are major determinants of corn and sorghum prices.

The model is part of a set of interlinked sectoral and macroeconomic models that link Mexico and the United States (with enough specification for the rest of the world to close the system).

Just reports the results of the simulations of various alternative U.S. agricultural policy scenarios, to estimate the effects of various feed grain policy instruments.

Plausible U.S. agricultural policy adjustments can alter border prices facing world trading partners by 10 to 15 percent. The extent of these adjustments depends heavily on the current state of the U.S. agricultural economy — and they are transmitted to other grain and livestock markets in varying degrees.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to understand the dependence of domestic agricultural markets on domestic macroeconomic policy and the macroeconomic and trade policies of major trading partners. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-035, extension 30464 (42 pages with tables).

449. Analyzing the Effects of U.S. Macroeconomic Policy on U.S. Agriculture Using the USAGMKTS Model

Richard Just

Countries that trade in agricultural commodities with the United States need to sort out the effect of U.S. macroeconomic policy on U.S. agriculture. This report describes the results of simulating the effects of U.S. macro policy on U.S. agriculture.

The USAGMKTS model was developed to determine the effects of potential changes in U.S. policy on the border prices of corn, sorghum, and soybeans.

It is part of a set of interlinked macroeconomic and sectoral models that link Mexico and the United States (with enough specification for the rest of the world to close the system).

The macroeconomic effects of monetary and fiscal policy are estimated using the FAIRMODEL model of the U.S. macroeconomy.

The results show that the effects of U.S. macroeconomic policies on pricing and exports can be substantial. Recent and pending macroeconomic policy adjustments can change prices 15 percent or more. Moreover, the response depends heavily on current economic circumstances.

This model helps countries that trade with the United States to sort out the effect of current economic circumstance on U.S. policies.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to understand the dependence of domestic agricultural markets on domestic macroeconomic policy and the macroeconomic and trade policies of major trading partners. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-035, extension 30464 (34 pages with tables).

450. Portfolio Effects of Debt-Equity Swaps and Debt Exchanges with Some Applications to Latin America

Daniel Oks

This model explains why debt-equity swaps tend to raise the steady-state price of sovereign debt in Chile and Brazil and reduce it in Argentina and Mexico.

Oks proposes a portfolio equilibrium model for assessing the short-term and long-term macroeconomic effects of debt buybacks and debt equity-swaps.

He examines the main results in the light of recent Latin American experience with voluntary debt reduction. He shows that in the short-term, debt-equity swaps are inflationary and raise real equity and sovereign debt prices — and that foreign debt buybacks at a discount raise real equity and sovereign debt prices.

The steady-state impact of debt-equity swaps on sovereign debt prices hinges on the values of the following parameters: the foreign resource transfer a country can make, the ratio of domestic equity held by foreigners to a country's foreign debt, the terms of the debt-equity exchange, the rate of profit or equity, the rate of profit remittances, and the technology (decreasing, constant, or increasing returns to scale).

Estimates of these parameters indicate that debt-equity swaps raise the steady-state price of sovereign debt in Chile and Brazil and reduce it in Mexico.

This paper — a product of the Debt

and International Finance Division, International Economics Department — is part of a larger effort in PRE to assess the macroeconomic effects of voluntary debt reduction. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 31047 (37 pages with tables).

451. Productivity, Imperfect Competition, and Trade Liberalization in Côte d'Ivoire

Ann E. Harrison

If structural changes affect the nature of competition in an economy, both changes and levels of change in productivity may be mismeasured.

Research on productivity often focuses on the relationship between productivity increases and such structural changes in an economy as trade reform.

If those structural changes affect the nature of competition or affect scale, however, both the changes and the level of change in productivity may be mismeasured.

Harrison extended previous studies to measure the relationship between productivity, market power, and trade reforms. Using a panel of 287 firms in Côte d'Ivoire, she analyzed changes in firm behavior and productivity, measuring market power before and after the 1985 trade reform.

Harrison found evidence that market power fell in several sectors following the changes in trade policy. She also shows that ignoring the effects of liberalization has led researchers to mismeasure the effect of trade reform on productivity.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to analyze the relationship between trade policy and industrial efficiency. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila Fallon, room N10-025, extension 38009 (41 pages with tables).

452. Modeling Investment Behavior in Developing Countries: An Application to Egypt

Nemat Shafik

This model of investment behavior takes into account certain characteristics common to developing countries, such as the oligopolistic structure of markets, putty-clay technology, the inelastic supply of nontraded capital goods, and financial repression.

Investment functions are notoriously difficult to estimate, particularly in developing countries. Shafik presents a model of the determinants of private investment that takes into account common characteristics of a developing economy.

Firms' decisions about investment are outcomes of the oligopolistic structure of markets, putty-clay technology, the inelastic supply of nontraded capital goods, and financial repression. These factors result in an important role for markups, internal financing, demand, and the cost of investment goods — defined, not as the interest rate, but as the price outcome from the interaction of supply and demand in the market for capital goods.

By constructing an index of the relative price of investment goods, it is possible to provide a more meaningful indicator of the true cost of capital to the firm under a repressed financial system. In an economy with a well-functioning credit market, the Keynesian equilibrium condition equating the marginal efficiency of investment with the interest is likely to hold. But under financial repression or where credit markets are imperfect, the interest rate is not a true reflection of the cost of capital to the firm. Instead, a combination of the price of investment goods and the quantity of capital available to the private sector appears to be a more realistic proxy.

Shafik tests the model econometrically for Egypt, using the recent literature on cointegration and error correction to avoid spurious regressions and to estimate the long-run equilibrium relationship between investment and its determinants.

She discusses the limit of testing econometrically whether the government "crowds in" or "crowds out" private investment and the impossibility of constructing the counterfactual. It is not possible to conclude whether crowding out or in occurred at the macroeconomic level (to accept the alternative hypothesis) but it is possible to draw conclusions about what did not happen (the null hypothesis).

The model also provides a framework for analyzing the effects of government policy by considering explicitly the role of a number of possible instruments such as the exchange rate, the quantity of credit available to the private sector, and the composition and financing of the government budget. Future research may choose to test other empirical proxies, such as protection, within the same framework.

This paper — a product of the International Economic Analysis and Prospects Division, International Economics Department — is part of a larger effort in PRE to understand the determinants of private investment in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Joseph Israel, room S7-218, extension 31285 (66 pages with figures and tables).

453. Do Steel Prices Move Together? A Cointegration Test

Ying Qian

Lack of international comparability in crude steel prices presents a problem in constructing an econometric model of the global steel market.

The commonly used measures of crude steel prices are the weighted average of the prices of steel products and the index of the weighted average of prices based on a certain year.

But in the context of constructing an econometric model of the global steel market — a model that treats steel in crude steel equivalent terms — these measures are not comparable internationally.

If the various product prices are cointegrated, it is appropriate to use the price of the most widely produced and traded product in the model (uncoated steel sheet) as an indicator of the general movement of crude steel prices.

This would solve the problem of international comparisons.

Qian tested the cointegration of steel product prices, using import unit values

for France and West Germany and survey market prices for the United States.

He concludes that the hypothesis that the price of uncoated steel sheet cointegrates with the prices of other steel products holds in most cases in France and Germany. The same is not true of the United States, which may point to quality problems with the price data.

Use of the price data of uncoated steel sheet as the indicator of crude steel prices in the global steel model would thus seem appropriate for capturing long-term price movements of various steel products.

Using cointegration tests, the paper also investigates the relationship between macroeconomic variables and steel product prices.

This paper — a product of the International Commodity Markets Division, International Economics Department — is part of a larger effort in PRE to investigate the decline since the mid-1970s in the use of metals in the industrial countries. Whether or not this change in industrial countries' demand for metals is permanent is of great importance for the developing country producers of the raw materials. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sarah Lipscomb, room S7-062, extension 33718 (33 pages with figures and tables).

454. Asset and Liability Management in the Developing Countries: Modern Financial Techniques — A Primer

Toshiya Masuoka

The increased volatility of exchange rates, interest rates, and primary commodity prices over the last two decades has highlighted the importance for developing countries of managing these risks.

The increased volatility of exchange rates, interest rates, and primary commodity prices over the last two decades has highlighted the importance for developing countries of managing these risks. Asset and liability management — a risk-management technique to systematically control price risks with market-based financial instruments — has been developed and broadly used in the industrial countries. But its applications to developing countries have been limited.

Asset and liability management is designed to quantify risk exposure explicitly in the planning process, and to carry out hedging activities with financial market transactions. It could provide an opportunity to reduce the effects of external shocks and complement a country's long-term development planning.

Drawing on the recent studies on theory and practice, Masuoka provides a primer for persons interested in a country's risk-management. Emphasizing practical aspects, the primer presents five major issues:

- The concept of asset and liability management at the country level and the methods of risk exposure measurement.
- Basic characteristics and mechanisms of modern financial instruments — including forward, futures, option, and swap contracts and examples of simple risk-hedging activities with these instruments. Commodity risk management instruments, such as commodity swaps, commodity-linked loans, and commodity bonds are also explained.
- Actual applications of modern financial techniques by some developing countries.
- Factors impeding developing countries' use of modern financial tools and some ways to remove these factors.
- The World Bank's technical assistance programs for helping developing countries improve their risk management.

This paper — a product of the Office of the Vice President, Development Economics — is part of a larger effort in PRE to explore the possibility of developing countries using financial market transactions to hedge their exposure to external shocks. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sook Bertelsmeier, room S9-039, extension 33767 (56 pages with boxes, figures, and tables plus 6 pages of appendix).

455. A Formal Estimation of the Effect of the MFA on Clothing Exports from LDCs

Junichi Goto

Exporting developing countries are losing a lot under the MFA's restrictions on trade in clothing: the trade-suppressing effects on restricted suppliers are big; the spillover effects on unrestricted LDCs are small.

This paper establishes a simple general equilibrium trade model to estimate the effects of the Multifibre Arrangement (MFA) on world trade in clothing, especially on exports from developing countries.

The MFA, in effect for more than a quarter of century, has strongly influenced world trade in textiles and clothing. Although intensive negotiations on the abolition of the MFA are under way in the Uruguay Round, there is little hope for its imminent demise.

The MFA greatly affects developing countries because the MFA restrictions are imposed discriminatively on the exports from developing countries. Until very recently, however, the emphasis of empirical studies of the MFA was on importing developed countries rather than exporting developing countries.

One of the main features of the estimation in this paper is its recognition of the underuse of MFA quotas. Contrary to popular belief, the MFA quotas are sometimes not binding because the use of the quotas is very low.

Although the structure of the model is simple (two markets and six groups of suppliers), it is useful for analyzing various effects of the MFA, including:

- The trade-suppressing effect (how much the clothing exports from restricted LDCs are suppressed due to the MFA).
- The trade-diversion effect among markets (how much the clothing imports are increased when one of the markets, either the United States or the European Community, unilaterally lifts the MFA restrictions).
- The spillover effect (how much unrestricted LDCs benefit from the restrictions on other LDCs).

Domestic producers in the developed countries, especially those in the United States, have benefited greatly from the MFA restrictions. The value of shipments of clothing by U.S. producers is more than $3 billion higher ($400 million for EC producers) than they would have been otherwise. When MFA quotas and tariffs are taken together, the value of clothing shipments by U.S. producers is $8 billion higher ($1.5 billion for the EC producers) than without such restrictions.

The spillover to unrestricted developing countries (such as most Latin American countries) is much smaller than often alleged. The spillover effect to unrestricted LDCs is less than $200 million (or

a mere 2 percent of the value of shipments by the unrestricted LDCs).

But the trade-suppressing effect on the restricted LDCs (such as Hong Kong and South Korea) is much larger than that of spillover. Due to the MFA, the value of the clothing exports from restricted LDCs is suppressed by more than $1 billion, even in the short run. In the long run, after various adjustments, the lost shipments of LDCs restricted by the MFA amount to more than $2 billion.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to assist developed and developing countries evaluate the effects of tariffs and nontariff barriers on international trade. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Maria Teresa Sanchez, room S8-040, extension 33731 (32 pages with figures and tables).

456. Improving the Supply and Use of Essential Drugs in Sub-Saharan Africa

S. D. Foster

The supply and use of essential drugs in Sub-Saharan Africa is at best inadequate because of inappropriate practices in the selection, procurement, storage, distribution, and prescription of drugs. This paper recommends solutions based on drug policies implemented successfully in several African countries.

Few people in Sub-Saharan Africa have access to essential drugs. And where drugs are available, they are inequitably distributed and improperly used. The main problems — and possible solutions — are:

Drugs are distributed through the private sector, nonprofit organizations, and governments. The private sector consists of a large proportion of unqualified illicit peddlers of drugs who dispense adulterated or expired drugs without prescription. Pharmacies run by qualified pharmacists are a small minority. Nonprofit organizations — usually humanitarian, secular, or religious — and public agencies run by governments also distribute drugs.

African countries do not have the capacity to produce the drugs they need. Pharmaceutical industries in Africa depend on imported raw materials that are expensive when bought in small quantities. It is generally cheaper to import generic drugs than to produce them locally. The paper discusses procurement strategies that have resulted in savings in several countries.

Drugs are wasted due to poor storage conditions, inadequate security, and deficient inventory control systems. Proper selection, quantification, storage, and inventory management of drugs could alleviate this problem.

Drugs are also wasted because of inappropriate and over-prescription, and noncompliance by patients. Efforts to involve prescribers in using standard treatment schedules and to inform patients about the proper use of drugs could result in improved efficiency.

Africa has special characteristics in its land-use patterns, population density, and road infrastructure that affect the distribution of drugs. Counterfeit drugs and difficulties in financing essential drugs are also serious problems. The advent of AIDS has presented new challenges in the provision of essential drugs.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger study in PRE of African health policy. A policy paper is being written based on the study. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (38 pages with tables).

457. Financing Health Services in Africa: An Assessment of Alternative Approaches

Germano Mwabu

African economies are performing poorly, and it is unlikely that governments will finance the health sector by raising additional tax revenues or by borrowing from international sources. What are the possibilities for user fees, community financing, and health insurance as alternatives? And should cost-recovery be an objective?

Only economic growth can significantly increase the finances available for health services in Africa.

User fees. User fees can be assessed for primary care (Bamako initiative). This may have the advantage of achieving sustainability in primary care, but discourage the poor from using health services. It is not known what the poor have to give up to have access to health services for which they must pay. For tertiary care, user fees can prevent the overuse of services.

User fees, where they exist, cover only a small fraction of expenditures for health services. Cost recovery through user fees cannot be an objective as the cost of providing health services far exceeds patients' ability to pay. The purpose of user fees must be to facilitate distribution of health services.

Community financing. Another possibility is to raise the funds for health services through collective action by the community. There needs to be a clearly perceived collective need and a community organization. However, the contributions collected are often in kind and not easily convertible into cash.

Revolving fund programs for nutrition and sanitation merit consideration.

Health insurance. Health insurance has limited use in Africa. There are few examples of health insurance plans, and they are generally provided by employers in urban areas. Insurance programs are expensive to run, provide incentives for members to overuse services, and may have the effect of lowering the quality of care.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger study in PRE of African health policy. A policy paper is being written based on the study. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (22 pages).

458. Does Japanese Direct Foreign Investment Promote Japanese Imports from Developing Countries?

Kenji Takeuchi

One way for developing countries to penetrate the Japanese market could be to rely on expansion of Japan's intrafirm imports

— particularly for machinery production — from Japanese manufacturing affiliates in these countries.

Japanese direct foreign investment (DFI) in developing countries has been export-market-oriented. Exports were the dominant sales destinations for the affiliates in the primary industries.

In manufacturing, although local markets were the dominant sales destinations of the Japanese affiliates, the share of exports increased from 26 percent in 1972 to 42 percent in 1986. The only subsectors in which export's share remained below 30 percent in 1986 were iron/steel, transport machinery, and chemicals.

The share of Japanese affiliates in Japan's imports of manufactures from Asia (where Japanese manufacturing DFI was most active) is found to have been particularly high in the electrical machinery industry (50-100 percent), very significant for transport machinery (rising from 30 percent in 1980 to 77 percent in 1986), precision machinery (rising from 30 percent to 60 percent), and general machinery (rising from 20-24 percent to 65-75 percent).

For manufacturing as a whole, the share increased from 15 percent in 1980-83 to more than 20 percent in 1986.

Thus for many types of machinery production, Japanese affiliates in Asia seem to have become established as a base for exporting to the Japanese market through intrafirm trade.

In some other manufacturing subsectors, Japanese affiliates have directed their sales efforts to other overseas destinations, gradually reducing the share going to the local market.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to analyze the prospects for developing country exports, particularly manufactured exports, in major industrial country markets. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Jean Jacobson, room S8-037, extension 33710 (41 pages with tables).

459. Policies for Economic Development

Stanley Fischer and Vinod Thomas

The economic policies developing countries should follow to sustain economic growth and development.

Fischer and Thomas's explanation of the policy and institutional reforms needed to sustain economic growth and development is organized around several main points:

- The appropriate macroeconomic framework will ensure stability. Fischer and Thomas discuss the essentials of fiscal, monetary, and exchange-rate policy as well as investment and savings ratios and strategies.
- Sectoral pricing and development and regulatory environments must address key constraints on growth, while respecting the need for stability. The authors discuss economywide issues as well as issues related to agricultural, industrial, and human resource development, poverty alleviation, and sustainable development (observing environmental considerations).
- The domestic economy must be integrated with the global economy to increase competition and improve competitiveness. Fischer and Thomas discuss reforms of commercial and trade policy and the capital account.
- The government must create the proper enabling environment — an appropriate legal, regulatory, institutional, and policy framework. Fischer and Thomas discuss areas in which the quality and competence of governments need improving as well as the nature and appropriate extent of the government's role in providing social services, managing economic policy, and fostering development of the private sector.

The authors conclude with an analysis of the Bank's changing emphasis on types of lending, and with a discussion of major remaining uncertainties, including the role of external funding and international development agencies.

This paper, a background paper for the 1991 World Development Report, is a product of the Office of the Vice President, Development Economics. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact the World Development Report office, room P4-009, extension 38064 (38 pages with tables).

460. Does Food Aid Depress Food Production? The Disincentive Dilemma in the African Context

Victor Lavy

Food aid has a significant positive effect on food production. Any disincentive induced by the additional supply of food is offset by the positive effects — particularly when the basket of food aid is very different from the locally produced basket, as is often true in Sub-Saharan Africa.

Food aid averages only 10 percent of total financial aid to developing countries, but in certain African countries — Botswana, Cape Verde, Mauritius, and Mauritania — it represents more than half the food available for consumption.

What is the relationship of food aid to food production and to commercial imports? Three main hypotheses have been advanced:

- Food aid is an addition to local food supplies that ultimately lowers prices and acts as a disincentive to local producers. The immediate effects may be small, but a lagged response can be generated.
- Food aid displaces commercial imports and does not add to domestic food supplies. If there is full displacement, prices should not change and there will be no effect on incentives.
- Food aid is determined to some extent by local food production. But in the medium run it can generate a positive supply effect that increases the level of production.

Lavy applied vector auto-regression (VAR) analysis to data for Sub-Saharan Africa to test these hypotheses. The issue is not whether food aid is good or bad but how it can be used to promote economic development and improve the nutrition of the food-insecure.

Lavy found that food aid has a significant positive effect on food production. Any disincentive induced by the additional supply of food is offset by the positive effects.

The total net increase in food supply following an increase in food aid is, however, of lower magnitude than expected — because food aid tends to replace almost an equivalent amount of regular food imports.

The extent to which an increase in food aid will lead to a drop in prices and output depends on whether it leads to a net increase in the food supply. If com-

mercial imports decline as food aid increases, the disincentive effect is mitigated.

Food aid is more likely to have a positive effect in countries that use fertilizer intensively. One possible explanation for this is that countries that enjoy a relative abundance of regular food aid can use the resources made available through reduced food imports to invest more in the agricultural sector — which is more likely when such an investment is a condition imposed by the aid donors.

This paper — a product of the Welfare and Human Resources Division, Population and Human Resources Department and the African Food Security Unit — was written as a background paper for the *Food Aid in Sub-Saharan Africa* study. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Angela Murphy, room S9-114, extension 33751 (28 pages with tables).

461. Labor Market Participation, Returns to Education, and Male-Female Wage Differences in Peru

Shahidur R. Khandker

Private schools are more effective than public schools in increasing productivity — and returns on female education are at least as high as returns on male education, so governments must find ways to improve the public schools and increase girls' schooling.

Using household survey data from Peru, Khandker estimates differences between male and female participation in the labor market, productivity (measured by wages), and economic returns to schooling.

He tries to identify characteristics that enable some women, although not many, to participate in the labor market; to determine whether the private returns to education vary by gender and influence school enrollment; and to evaluate the extent to which the male-female wage gap is caused by differences in human capital.

Khandker reaches three policy conclusions:

• Public schools are less effective than private schools in raising productivity and reducing the wage gap. Policymakers should make the public school system more effective.

• Investments in education and training for girls increase their participation and productivity in the labor market more than a similar investment in boys' education increases theirs. Those investments also reduce fertility and improve the education of children and the health and nutrition of all family members. Returns are high on human capital investments in women — at least as high as an equivalent investment in men. The government must identify ways to channel more resources to women's education.

• Households and communities are probably the main sources of gender bias in parental investment in children's education, so the government must identify ways to influence the household's decisions about education. Policy research is needed to identify how households and communities affect parental decisions and how the government can intervene effectively to affect this decisionmaking.

This paper — a product of the Women in Development Division, Population and Human Resources Department — is part of a larger effort in PRE to determine if and how women's productivity (and thus family welfare) are improved when women are given more access to education, extension, training, credit, health care, and other public resources. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Belinda Smith , room S9-125, extension 35108 (51 pages with tables).

462. An Alternative View of Tax Incidence Analysis for Developing Countries

Anwar Shah and John Whalley

Traditional tax incidence analysis makes assumptions that do not apply in developing countries — estimates change significantly when analysts consider such factors as high levels of protection, rationed foreign exchange, price controls, black markets, and credit rationing.

Despite decades of studies, tax incidence analyses for developing countries continue to be based on the same shifting assumptions used in developed country studies — despite obvious pitfalls.

Taxes are assumed to be shifted forward to consumers or backward onto factor incomes.

But developing countries typically have a much different nontax and regulatory policy than developed countries do, with such features as more protection, rationed foreign exchange, price controls, black markets, and credit rationing. Shah and Whalley argue that these features can greatly complicate — even obscure — the incidence effects of taxes in developing countries.

For several taxes, taking such features into account can reverse signs or substantially alter traditionally prepared estimates of incidence effects.

Shah and Whalley discuss the implications of their findings for country lending programs and comment on how the extent to which nontax policy reform has already been implemented affects the significance of the points they raise in this paper.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to promote the development of tax systems in developing countries that are simple, fair, and efficient, and advance poverty alleviation objectives. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (62 pages with tables).

463. Redefining Government's Role in Agriculture in the Nineties

Odin Knudsen and John Nash, with contributions by James Bovard, Bruce Gardner, and L. Alan Winters

The legitimate roles of government in agriculture — especially investment and research — have often been subordinated to roles for which government has shown little competence, such as price setting and intervention in markets. These priorities must be reversed.

Government policies in agriculture have been costly and misdirected worldwide, argue Knudson and Nash.

In developed countries, those policies have cost taxpayers and consumers hundreds of billions of dollars yet failed to provide low-cost food while sustaining farm incomes. They have disrupted world trade and could create divisive trade conflicts with ramifications well beyond agriculture. They enrich larger farmers and agroindustrialists and probably acceler-

ate the replacement of the family farm with the large farm business. In the long run they have contributed to degradation of the environment.

In developing countries, those policies have impoverished rural people without providing the food security urban consumers and policymakers want. Immense funding wasted on subsidies of fertilizer, credit, and urban consumers should have been invested in areas where private markets do not work well because the costs or benefits are difficult to internalize for private agents — infrastructure or some basic research, for example.

This inefficiency need not continue, argue Knudsen and Nash. The Uruguay Round is an ideal opportunity for developed and developing nations to strike a bargain, the elements of which should be to:

- Make agricultural trade subject to the full discipline of the GATT by eliminating waivers and exemptions that have set agricultural commodities apart from other products in their treatment under the GATT.
- Bring developing countries fully into the GATT, by eliminating their special status, which allows them to avoid reciprocity in trade policy reform and to protect infant industries or use quantitative restrictions for balance of payments purposes.
- Get all countries to reform their agricultural policies, to reduce the many policy-induced distortions that plague the sector. Measures that need reform include import restrictions, export subsidies, and dumping of surplus commodities by the OECD countries; and subsidies to fertilizer, irrigation, and credit that distort trade incentives in both developed and developing countries.

Such a bargain would result in a redefinition of governments' role in agriculture, increased sectoral efficiency nationally, and a more smoothly functioning and tightly knit world agricultural trading system.

Many of the unproductive policies detailed by Knudsen and Nash have a common cause, they say: governments' tendency to see problems as resolvable by taking income from some and giving it to others. What is needed, they say, is to reconsider the government's proper role in agriculture — and the institutional changes that would follow from that. Knudsen and Nash are specific in their suggestions for change.

Resolving the problems in agricultural policy requires withdrawing most government intervention from agricultural markets and recognizing economic rights: the farmers — to produce whatever commodities they feel will profit them best and sell them freely at home or abroad; the traders — to move goods in expectation of profits, without fear of repression; and consumers — to buy foods at the lowest prices, from foreign or domestic sources.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to investigate the impact of industrial country policy on developing countries and how impediments to structural adjustment in the latter countries can best be removed. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Karla Cabana, room N10-037, extension 37946 (122 pages with tables).

464. Does A Woman's Education Affect Her Husband's Earnings? Results for Israel in A Dual Labor Market

Shoshana Neuman and Adrian Ziderman

Household survey data indicate that in Israel a woman's education increases her husband's earnings at higher occupational levels but not at lower ones.

A recent focus on decisionmaking within the household (rather than by the individual) has opened a new field of research into the economics of marriage and the family.

Recent research indicates that in the United States, at least, a wife's education has a positive effect on a husband's earning capacity — a focused instance of the economic benefits of (particularly nonmarket) association. Even if education did not get women jobs or improve their ability to function as housewives and mothers, it is not wasted.

Such cross-productive effects may be different in the type of dual labor market that exists in Israel.

Drawing on data from the Israel Labor Mobility Survey, Neuman and Ziderman found that the wife's educational level increased a husband's earnings in Israel's primary sector (in which workers have good jobs, with good pay, security, and fringe benefits) — but not in the secondary sector (in which workers have low-paying, unstable, generally unattractive jobs).

These new findings are consistent with the general implications of the dual labor market model.

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to assess the impact of women's education on productivity and family welfare. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Valerie Charles, room S6-228, extension 33651 (17 pages with tables).

465. How Integrated Are Tropical Timber Markets?

Panos Varangis

Do tropical timber price series — across species, products, and regions — move together, at least in the long run? Most do, tests show.

The tropical timber market is characterized by multiple species, multiple products, and regional patterns of production and trade. In such a market, finding a representative price is a difficult and perhaps an irrelevant task. So Varangis conducted tests to see whether prices from different species, products, and regions move together, at least in the long run. If they do, the use of a representative price may be appropriate. The analysis could also be seen as a test of whether the Asian and African/European markets are interdependent.

The following are the test results:

- All series, except that for teak, were found to be cointegrated. The results for teak may be explained on the grounds that the series was the only domestic price series; all other prices are internationally traded. Also, but not very likely, the relative shortness of the teak series may have reduced the tests' power.
- Tropical timber prices in the major geographical regions move together. There may be short-term deviations, but market forces pull these regional prices together

in the long run.

• Given that prices move together, the long-run forecast for one has implications for the others.

• Log and sawnwood prices move together, which is to be expected since logs are the primary input for sawnwood.

This paper — a product of the International Commodity Markets Division, International Economics Department — is part of a larger effort in PRE to examine price formation in primary commodity markets. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Dawn Gustafson, room S7-044, extension 33714 (25 pages, including graphs and tables).

466. Is There An Intra-Household Kuznets Curve?

Lawrence Haddad and Ravi Kanbur

There probably is — so that the benefits of an increase in household well-being need not fully "trickle down" to the most disadvantaged members of the household — particularly in the poorest households.

Is there a "Kuznets curve" for intra-household inequality? Does intra-household inequality first increase, peak, and then decrease as the household becomes better off?

Haddad and Kanbur found both theoretical and tentative empirical support for this hypothesis.

The policy significance of this finding is that the benefits of an increase in household well-being need not fully "trickle down" to the most disadvantaged members of the household. This is particularly true for the poorest households.

This finding should be taken into account in the design of supplementary feeding programs, for example. Research is now under way on this topic.

This paper — a product of the Research Administrator's Office — is part of a larger effort in PRE to investigate appropriate targeting of poverty-alleviation policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Jane Sweeney, room S3-026, extension 31021 (29 pages).

467. Structural Adjustment and Living Conditions in Developing Countries

Nanak Kakwani, Elene Makonnen, and Jacques van der Gaag

By and large, social indicators in developing countries improved in the 1980s, but progress was slowest in the countries that needed it the most. The data show unacceptably high mortality rates, low school enrollment levels, and extensive undernutrition in many parts of the world. Of particular concern are the declining primary enrollment ratios in intensely adjusting countries. This erosion of human capital is inconsistent with the main objectives of adjustment: sustainable long-term growth.

Kakwani, Makonnen, and van der Gaag compare trends in per capita private consumption, social sector indicators, and government spending in the social sectors, between countries that received Bank adjustment loans and countries that did not.

Most surprising was the lack of response in absorption to adjustment measures. Intensely adjusting countries showed *more* growth in private consumption in 1985-87 than did nonadjusting countries. Moreover, the government's role relative to GDP *increased* rather than decreased. This remains the case in some intensely adjusting countries even if interest payments are not considered.

There is little a priori reason, then, to believe that the poor are being hurt by adjustment because absorption is reduced. But there is still cause for concern: real per capita spending in the social sectors decreased in many countries, especially those adjusting intensely.

Health-related data show continued progress in the 1980s, probably even faster than in the 1970s, for adjusting and nonadjusting countries alike. Food production data show total per capita growth of 10 percent for 1980-87 — but significant growth in Asia overshadowed large declines in Africa, Europe, and the Middle East. Undernutrition increased in low-income African countries but was reduced everywhere else.

School enrollment rates improved significantly in the 1970s but only a little in the 1980s — and in some countries declined. Primary enrollment ratios tended to decline in the adjusting countries, especially those that reduced per capita spending on education.

Still, the data do *not* show a clear overall relationship between adjusting and nonadjusting countries in trends in most of the social indicators. By and large social indicators improved in the 1980s — but progress was slowest in the countries that needed it the most.

Improving the living conditions of the poor calls for growth-oriented policies, the effects of which will be felt only in the long run. During adjustment, immediate interventions are needed to mitigate short-run welfare losses experienced by readily identifiable groups.

The analytical foundations of those interventions must be strengthened. And long-term social sector policy must be developed to guarantee *sustainable* success against the correlates of poverty. Such policies have been shown to be feasible and affordable and hold for adjusting and nonadjusting countries alike.

This paper — a product of the Welfare and Human Resources Division, Population and Human Resources Department — is part of a larger effort in PRE to assess the impact of adjustment on living standards in developing countries. It was prepared as background for the Second Report on Adjustment Lending (RAL II). An extended version of this paper was presented at the World Bank/IFPRI Poverty Research Conference in October 1989. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Brenda Rosa, room S9-137, extension 33751 (57 pages, including tables).

468. Does the Structure of Production Affect Demand for Schooling in Peru?

Indermit Gill

The more important the services sector, the more likely girls are to get more education. The more important industry, the more likely boys are to get more education. Both sexes get more schooling as the supply price of schooling falls, but girls gain more than boys do.

Analyses of gender differences in investments in human capital typically em-

phasize family resources as the determining factor. These studies usually find that investments in male offspring are greater, that these differences narrow as the level of household wealth increases, and that equity is also affected by the composition of household wealth (proxied by the amount the mother earns and/or her educational level).

Gill addresses one drawback of these analyses: they do not explicitly consider the factors that determine the *demand* for schooling and health — other than tastes — and why this differs for men and women. Gill uses the regional structure of the economy, proxied by the shares of services and industry in regional gross domestic product (GDP), as an indicator of the demand for educated workers. By examining whether the level of schooling as a function of shares of services and industry differs for men and women, he looks for gender bias in the demand for schooling. Gill estimates schooling demand functions for males and females using household data from the Peruvian Living Standards Survey, and provincial data from the Peruvian census.

Gill's primary findings are:

- As services and industry increase as a share of GDP, relative to agriculture's share, the demand for schooling increases for both boys and girls. (Both industry and services reward education more than agriculture does. Parents form expectations about the sector their children are likely to work in as adults and choose levels of schooling accordingly.)
- As services' share in GDP increases compared to agriculture (holding industry's share constant), girls' demand for schooling increases more than boys' demand for schooling.
- An increase in industry's share in GDP relative to agriculture (holding services' share constant) is more closely associated with an increase in the demand for schooling of boys than of girls.
- A decrease in the supply price of schooling increases the level of schooling attained by both sexes, but the gain is larger for women.
- Increases in wealth, all else being equal, are associated with increases in both sexes' demand for schooling.

What are the policy implications of these findings? Some ways to increase educational levels, especially those of women, include (on the supply side) lowering the supply price of schooling — improving access to secondary schooling, for example — and (on the demand side) expanding the services sector. The demand-side prescription contradicts the World Bank and IMF policy advice that developing countries foster the growth of tradables to service their external debt.

This paper — a product of the Women in Development Division, Population and Human Resources Department — is part of a larger effort in PRE to determine if and how women's productivity (and thus family welfare) are improved when women are given more access to education, training, credit, health care, and other public resources. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Maria Abundo, room S9-123, extension 36820 (55 pages, including tables).

469. Modeling Economic Behavior in Peru's Informal Urban Retail Sector

J. Barry Smith and Morton Stelcner

Small family businesses that operate outside the formal system comprise a large part of the economy in developing countries and more than half the Peruvian street vendors are women. This model of informal activity in Peru's urban areas elicits policy recommendations to improve productivity (especially women's) in the informal sector.

The informal sector is a collection of loosely organized, small-scale competitive family businesses that rely little on nonfamily hired labor, use labor-intensive technologies, and operate largely outside of the legal, bureaucratic, and regulatory framework in terms of licenses, taxes, and contractual obligations.

In Lima, Peru, the informal sector makes up half the labor force, accounts for 61 percent of the hours worked, and generates an astounding 39 percent of GDP. More than half the street vendors are women.

In the informal sector, the free play of market forces determines returns to productive factors, especially labor. Informal enterprises are concentrated in low-income areas of urban centers, but rural households in Kenya and Peru, among other countries, have joined.

The informal sector is an important — if not the sole — income opportunity for growing numbers of the poor. International aid agencies have explored policies to make informal businesses more profitable. But this surge of interest is not based on much empirical evidence about what determines the firms' performance. Nor is the value of women's entrepreneurial activities reflected in the national accounts.

Smith and Stelcner analyze Peru's urban informal sector — particularly women's role in it — based on a theoretical model of informal retail trade (the dominant nonfarm family enterprises), using data from the Peru Living Standards Survey (PLSS).

They address these questions: What factors explain differences in the performance of retail businesses? If these can be identified, what types of policy initiatives might improve the performance of firms, especially those run by women? Among their recommendations:

- Channeling credit to small businesses.
- Promoting cooperatives and self-help associations, which provide credit, facilitate bulk purchases, and establish markets for entrepreneurs.
- Providing technical assistance, such as short-term instruction in basic management.
- Making it easier and cheaper to get business licenses.
- Provide or facilitate cooperative childcare centers, facilities for preparing food, and neighborhood facilities for basic health care to reduce the heavy workload typical for women.

This paper — a product of the Women in Development Division, Population and Human Resources Department — is part of a larger effort in PRE to determine if and how women's productivity (and thus family welfare) are improved when women are given more access to education, extension, training, credit, health care, and other public resources. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Maria Abundo, room S9-123, extension 36820 (87 pages with diagrams and tables).

470. What Do Alternative Measures of Comparative Advantage Reveal About the Composition of Developing Countries' Exports?

Alexander J. Yeats

Developing countries' "revealed" comparative advantage in labor-intensive exports tends to fall as the requirements increase for natural resources, physical capital, and human capital — including higher per capita wages and more professional or technical personnel.

Despite their extensive applications in research and policy studies, no product-level comparisons had been made between Bela Balassa's "revealed" comparative advantage (RCA) index and indices associated with the National Bureau of Economic Research (NBER) that reflect the standard Hecksher-Ohlin theory of comparative advantage.

Yeats conducted several empirical tests for developing countries' exports of manufactured products, partly to identify factors that often lead to differences between the two indices.

The results show that products in which developing countries have achieved a revealed comparative advantage are highly concentrated in a broad group of labor-intensive products; for other items, their RCAs are generally below unity.

Within the labor-intensive group, however, developing countries failed to develop a revealed comparative advantage for about half of the items.

A regression model suggests that in the labor-intensive group, revealed comparative advantage falls as the requirements increase for natural resources, for physical capital, and for human capital — including higher per capita wages, and more professional or technical personnel.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to provide basic information for analyzing the present level and composition of developing countries' exports and projecting future changes in them. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Jean Jacobson, room S8-037, extension 33710 (29 pages, including tables).

471. The Determinants of Farm Investment and Residential Construction in Post-Reform China

Gershon Feder, Lawrence J. Lau, Justin Lin, and Xiaopeng Luo

Forced consolidation of small Chinese farms into larger farms is unwarranted but China needs mechanisms to facilitate free-market land transactions, better supplies of such inputs as fertilizer, and — when those are available — a reoriented rural credit system. Early extensions of farmers' leases on state-owned land would reassure farmers about the government's commitment to the present system.

After 20 years of collectivization, China's agricultural sector was reformed in the last decade. Individual farm/household units replaced collective production. Households were given individual leases on former commune land — first for 3-5 years, but now for 15 years, and even longer for tree crops.

Household data on four areas in China in 1987-88 revealed patterns of spending on productive assets, durable consumer goods, and housing.

Using a model of household production and investment decisions, Feder, Lau, Lin, and Luo analyzed data on several factors that had been thought to inhibit investment in farm capital and encourage residential or other nonfarm investments: the typically small size of farms together with increasing returns to scale in production; inadequate credit; and farmers' perceptions of insecurity because of possible policy shifts during the life of their leases on state-owned land or the likelihood of being assigned other lands when the contract matures.

What were the policy implications of the study results?

If the four study sites reflect the situation elsewhere in China, policymakers' preoccupation with issues of farm size and consolidation are unwarranted. The production gains from consolidation would be limited and the costs substantial.

Where farms are tiny, farm size is a problem — but coercing consolidation or recollectivization would be harmful. It would be preferable to introduce institutional mechanisms and procedures to facilitate market-induced land transactions. More mobility of labor would also help.

Concerns about the inadequacy of investment finance for agricultural households are not yet justified in areas where the supply of such production inputs as fertilizer is unsatisfactory. But once the input supply system improves, limited credit will become a constraint — and the rural credit system, which is geared to rural industry and commerce, will have to be reoriented.

Radical revision of the land tenure system is not called for as the land leasing system seems not to be hampering investment. But likely erosion of investment incentives will be averted if leases are extended before they mature, reassuring farmers about the government's long-term commitment to the present system.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of an effort to investigate rural credit markets, farm investment, and agricultural productivity in China. That research is part of a larger effort in PRE to determine how financial intermediation affects economic activities. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-039, extension 30464 (35 pages).

472. Gains in the Education of Peruvian Women, 1940 to 1980

Elizabeth M. King and Rosemary Bellew

What determines girls' educational attainment? School quality (measured by the number of textbooks and teachers); changes in attitudes and better economic opportunities for educated women; parents' (especially mothers') years of schooling and occupations; and the opportunity cost of sending a girl to school — especially in rural families, or when mothers must hold jobs outside the home.

Since the mid-1950s, Peru's education policies have been designed to raise skill levels and make education available to more of the population. Those policies rested mainly on expanding the number of schools. As a result, school enrollment rates and attainment levels rose. But an apparent parental preference to educate sons more than daughters meant that boys' schooling levels rose more quickly than girls.' Policies were not enough to

brings girls' schooling even with boys', especially in rural areas.

School quality, measured crudely by the supply of textbooks and the number of teachers, appears to have improved the schooling of women. Girls who had a textbook for their own use attained more than half a year of schooling than those who did not. Changes in attitudes and better economic opportunities for educated women also seem to have strengthened the demand for educating rural girls.

Parents' years of schooling and occupations were significant determinants of educational levels. The impact of these socioeconomic factors lessened over time as the number of schools expanded and primary education became more available.

The relative effects of parents' education differed for boys and girls. In the adult sample, both parents' education had a strong positive effect on daughters' education; for sons, the father's education had double the effect of the mother's education. In the youth sample, the mother's education had a stronger effect on the daughter's education. These differences reflect a preference on the part of fathers to send their sons to school, which mothers partly counter-balanced.

Peru's education policies have reduced the direct costs associated with going to school. But time allocation patterns reveal that the opportunity cost to the family of school attendance could be an effective barrier to further improvements in school enrollment and continuation rates. Even at a young age, girls — especially in rural families — participate in the labor market and contribute substantially to productive work at home.

This paper — a joint product of the Education and Employment Division and the Women in Development Division, Population and Human Resources Department — is part of a larger effort in PRE to determine how to improve women's access to education in developing countries and if and how that education improves their productivity and family welfare. The paper will be part of a book on women and the economy of Peru to be published by the Bank. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cynthia Cristobal, room S6-033, extension 33640 (47 pages, including tables).

473. Adjustment, Investment, and the Real Exchange Rate in Developing Countries

Riccardo Faini and Jaime de Melo

This review of adjustment experience suggests that sharp devaluation of the exchange rate is probably ineffective in countries exporting primary goods. To encourage investment, adjustment packages must do more to ensure a stable macroeconomic environment and appropriate debt relief.

At the center of the controversy about the effectiveness of "adjustment with growth" loan packages from the IMF and the World Bank has been the heavy emphasis on real exchange rate depreciation as a way to restore external balance and elicit a positive supply response.

Faini and de Melo examined the adjustment record for a large sample of developing countries and found that adjustment has been far more successful for countries exporting manufactured goods than for countries exporting primary goods (mostly low-income African countries).

Devaluation of the exchange rate in countries exporting primary goods appears to be ineffective. Most of their adjustment has taken the form of reduced spending rather than increased supply. As a result, they have not resumed sustainable growth.

The longer-term prospects for exporters of manufactured goods are much brighter. They show more signs of improving efficiency and less decline in investment than do exporters of primary goods.

Faini and de Melo found strong support for the debt overhang argument. That is, after controlling for other factors, they found that the resumption of private investment growth had been hampered in countries with a heavy debt burden and an unstable macroeconomic environment. Investors postpone investment until the uncertainty about a stabilization program is resolved — and low investment, in turn, increases the probability of economic deterioration. This suggests that adjustment packages must do more to ensure a stable macroeconomic environment and appropriate debt relief.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a PRE research project on the sustainability of trade reform in structural adjustment programs. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Rebecca Sugui, room N10-031, extension 37951 (44 pages including tables).

474. Methods for Measuring the Effect of Adjustment Policies on Income Distribution

Anne Maasland

There are a variety of approaches, and country issues and data availability will determine the most practical approach.

Maasland reviews the different methods for measuring how adjustment affects the distribution of income and characterizes them as qualitative or quantitative — and general equilibrium or partial equilibrium.

No single integrated model can answer all questions. The most practical approach for a particular country depends on the issues that the country faces — and available data and resources.

In a data-poor country with no microsurveys or good macrodata, a more qualitative, partial-equilibrium analysis will be required.

If the country has a microsurvey, poverty profiles can be quantitative and more detailed.

In a data-rich country, macroeconomic and microeconomic data can be combined to construct a computable general equilibrium model with which to generate quantitative estimates of the impact of adjustment policies.

Between these extremes, other methodologies may be applicable — depending on the availability of data and the particular focus of the reform program. Partial analysis may be relevant if a country faces special issues.

Maasland found that a study of the effects of macroeconomic policy on distribution will benefit from an analysis of microeconomic issues that address how the poor and other groups respond to the changed environment after adjustment. These responses can significantly affect the outcome of real incomes and poverty. The importance of these feedback effects suggests that wherever possible, general equilibrium effects should be considered.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to analyze the impact of adjustment programs on income distribution. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Patricia Dixon, room N11-025, extension 39175 (37 pages).

475. Does Divestiture Matter? A Framework for Learning from Experience

Ahmed Galal

An analytical framework for empirically evaluating the effects of divestiture.

The economic rationale for divestiture rests on two propositions: that it will improve firms' productive efficiency and that it will reduce the budgetary burden that public enterprises impose.

But there has been almost no empirical analysis of what actually happens after divestiture, of which enterprises are desirable candidates, and under what conditions divestiture might improve a country's economic performance.

Galal provides an analytical framework (partial equilibrium analysis) for assessing these basic arguments and evaluating the lessons of experience.

To avoid the shortcomings of the few studies that have been done, Galal says three questions must be asked: What are the changes in economic efficiency and fiscal incidence, if any? What possible factors explain divestiture outcomes? What is the causal link between outcomes and their hypothetical determinants?

Galal suggests that to tease causality out of the limited data that exists on this relatively recent phenomenon, analysts compare data on:

- The same enterprise before and after divestiture.
- Divested and undivested firms in the same sector and same country.
- The performance of the divested firm and an explicit counterfactual (the hypothetical performance of the firm had it remained public).
- The performance of divested firms in competitive and noncompetitive markets in the same country.
- The performance of divested firms in the same industry but different countries.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — is part of a larger effort in PRE to: (1) assess the divestiture experience to date; (2) determine the factors that led to its success or failure; and (3) suggest how the World Bank and its borrowers may effectively use divestiture as a public policy tool to enhance economic development. This paper is a revised version of a research proposal that the World Bank's Research Committee has approved for funding. Work implementing the proposed methodology is underway in Chile, Mexico, the U.K., and Malaysia. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Gloria Orraca-Tetteh, room N9-069, extension 37646 (31 pages).

476. Health Insurance in Sub-Saharan Africa: A Survey and Analysis

Ronald J. Vogel

The middle class, not the poor, benefit from the little health care insurance that exists in Sub-Saharan Africa. Encouraging the development of private health care insurance could free up more funds for the poor. Prepaid capitated health insurance will encourage efficiency by health providers; deductibles and coinsurance will have similar effects on health consumers.

Based on a survey and analysis of health insurance in 23 countries in Sub-Saharan Africa, Vogel reached certain conclusions:

Most Ministry of Health (MOH) budget expenses in these countries (with the possible exception of Tanzania and Ethiopia) are skewed to a small, well-defined population. The well-to-do pay for the "best" health care in the private sector, out of their own pockets or through insurance policies (usually from foreign sources).

Most poor people rely on the MOH budget as an implicit or informal form of national health insurance or on traditional healers for whose care they must pay out of pocket — paying more for traditional healers and drugs than they might co-pay on health insurance. MOH spending is low in the geographical areas where the poor live and for the kinds of health care the poor use, so the poor benefit little from these informal national health insurance systems.

The small middle class benefits most from health insurance in Sub-Saharan Africa. In the private sector, employers provide health care either directly or on contract — which is effectively health insurance. As government employees, they get preferential treatment under formal and informal health insurance, even national health insurance. The countries in Sub-Saharan Africa have not given the poor more, or more equitable, access to formal health insurance.

And the forms of health insurance adopted in Sub-Saharan Africa do not encourage efficiency. Zimbabwe, for example, where private insurance has grown rapidly since independence, has used the U.S. Blue Cross/Blue Shield model that existed in the United States in the 1960s and 1970s — in which the tax system heavily subsidized health insurance, all kinds of medical risk were covered (even for frivolous purposes), and neither the providers or consumers of health care were encouraged to restrain costs — so that health costs increased rapidly. One way or another, all the health insurance arrangements Vogel studied have the same perverse incentive effects that those open-ended, cost-based retrospective Blue Cross insurance payments had on health care providers.

Reform of these arrangements will be politically difficult. In countries with an implicit national health coverage, more equity for the poor requires that more of the MOH budget be directed their way. One way to do this would be to eliminate any favorable treatment government employees receive in the health care system. The availability of more private health insurance would similarly free more MOH resources. Governments must examine the regulatory and incentive atmosphere to be sure they are not inhibiting the development of private health insurance.

But they must also be careful that the private health insurance that does develop fosters more efficient health care. Prepaid capitated health insurance will encourage efficiency by health providers; deductibles and coinsurance have similar effects on health consumers.

This paper — a product of the Popu-

lation, Health, and Nutrition Division, Africa Technical Department — was written as part of a Regional Study on Health Financing, with financial support from NORAD and SIDA. It was presented at a seminar in April 1990 and will eventually be part of a World Bank technical paper. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Karol Brown, room J9-112, extension 35073 (40 pages, including tables).

477. Private Participation in the Delivery of Guinea's Water Supply Services

Thelma A. Triche

Lease contracts provide a promising format for capturing the potential efficiency gains of private participation in the water supply sector, but to ensure that these gains accrue to society as a whole, lease contracts must be carefully designed and the responsible public authority must be capable of fulfilling the monitoring and regulatory role effectively.

In 1989, the Republic of Guinea restructured its urban water supply sector and entered into a lease-contract arrangement in which private interests participate in delivering services.

Ownership of the country's urban water supply facilities and responsibility for sector planning and investment were transferred to a new national water authority, SONEG. A new water management company (SEEG) was created as a mixed enterprise by the government (49 percent) and a private foreign investor-manager (51 percent) to operate and maintain the facilities.

If carefully designed, a lease-contract arrangement can transfer maximum commercial risk to the contractor for day-to-day operations bus, unlike a concession, does not transfer ownership or the burden of capital expenditures for major new investments.

Recent experience with lease contracts and concessions in Côte d'Ivoire demonstrated that fragmentation of responsibilities for planning, investment, operations, maintenance, and debt service may lead to inefficiency and lack of accountability. And revenue protection clauses may erode incentives for efficiency.

The strength of the lease-contract arrangement in Guinea lies in the simplicity of the institutional framework, the specificity of responsibilities, and the clarity of accountability relationships and incentives. In planning investments and setting tariffs, SONEG has an incentive to maintain the financial viability of the operations on which it depends for revenue. SEEG is motivated to increase profits by operating efficiently and to avoid financial penalties by meeting service standards.

The challenges lie in the difficulty of creating in SONEG a strong oversight agency that will be able to negotiate effectively with SEEG, and the difficulty of attracting competition for subsequent contracts. Unless SONEG is successful, many of the potential efficiency gains of private participation may not be captured by consumers.

Processing the IDA credit for this arrangement was delayed because World Bank procurement guidelines do not cover the selection of contractors for lease contracts or concessions. With the growing interest in private operation of public services, the Bank should consider developing appropriate guidelines for selecting contractors for lease contracts and concessions.

This paper — a product of the Water and Sanitation Division, Infrastructure and Urban Development Department — is part of a larger effort in PRE to examine the implications of private participation in the delivery of public services. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Mari Dhokai, room S10-017, extension 33970 (30 pages).

478. Interrelations Among Child Mortality, Breastfeeding, and Fertility in Egypt, 1975-80

John Marcotte and John B. Casterline

Weaning children in infancy increases the risk of death for Egyptian children under five. Early weaning should be discouraged. Parents should be encouraged to be more careful about childcare and children's diet and hygiene after weaning.

Using Egyptian data from 1975-80, Marcotte and Casterline found that weaning children in infancy increases the risk of death for children under five. Early weaning is responsible for up to 29 percent of Egyptian children's deaths.

Children whose mothers become pregnant again are more likely to die if the pregnancy begins while the child is still an infant. Ending breastfeeding is responsible for up to 41 percent of pregnancies — 52 percent among women who do not use contraceptives.

Breastfeeding lasts an average 17 to 18 months in Egypt, so policy should probably not encourage all women to breastfeed longer, but women who breastfeed for only short periods should probably be encouraged to breastfeed longer. And parents should be encouraged to be more careful about childcare and children's diet and hygiene after weaning.

Replacement behavior in response to children's death accounts for up to 18 percent of pregnancies. It is not actual mortality but perceptions of a child's chances for survival that drive fertility. As infant deaths become less common, the proportion of replacement pregnancies should decline.

An important feature of this analysis was that fertility (represented by pregnancy) was examined simultaneously with child survival and breastfeeding, as three components of a system. The analysis involved regression models for the hazard, or risk, of three events occurring after a live birth: another pregnancy, weaning, or the death of the child.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to examine family consequences of high fertility. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (52 pages, including tables).

479. Conversion Factors: A Discussion of Alternate Rates and Corresponding Weights

Michael Hee

Time series of alternative conversion factors and of corresponding weights provides the framework for estimating overall conversion factors that are analytically relevant and meaningful.

The significant operational implications underlying the Bank's estimates of per capita GNP represent important considerations in systematizing the use of official and other exchange rates in determining the exchange rate to be used in the Bank's Atlas methodology. Hee explores the potential for a system of time series for various conversion factors and a corresponding set of time series for weights.

The framework is useful for countries with multiple exchange rates. It gives us a way to develop time series on parallel and black market exchange rates, purchasing-power parities, trade-related taxes and subsidies, and potentially more.

The starting premise is that a single official exchange rate has a weight of 1.0 in all years; all other rates (implicitly) have zero weights. A major component of this framework is the redistribution of weights among multiple exchange rates.

Such a matrix of conversion factors and corresponding weights could provide the mechanism (1) for a systematic approach to weighting alternative rates; (2) for estimating the effects of alternative weighting schemes; (3) for determining the effects of incorporating parallel or black market exchange rates; (4) for providing the basis for less erratic and unpredictable fluctuations in the data in the *World Bank Atlas* and *World Tables*; and (5) for improved and more transparent documentation of methods and "special" cases.

This paper — a product of the Socioeconomic Data Division, International Economics Department — is part of a larger effort in PRE toward a more versatile approach to estimating conversion factors for the *World Bank Atlas* and operational purposes. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Estela Zamora, room S7-136, extension 33706 (59 pages, including tables).

480. An Evaluation of Neutral Trade Policy Incentives Under Increasing Returns to Scale

Jaime de Melo and David Roland-Holst

Under the most plausible scenarios about the entry and exit of firms, a policy of export promotion is likely to be more beneficial than a policy of trade protection for sectors with increasing returns to scale.

Observing the limitations of small domestic markets, Bela Balassa has advocated low, uniform, across-the-board tariffs and export subsidies — that is, tariffs of X percent balanced by export subsidies of X percent — to overcome the disadvantages of small domestic markets and to permit the exploitation of economies of scale through specialization according to comparative advantage.

De Melo and Roland-Holst show analytically and empirically that economies of scale complicate analysis of the welfare effects of trade policy, especially when some sectors have domestic market power.

In particular, the standard distortionary costs of protection under constant returns to scale must be amended to accommodate the welfare effects of changes in scale efficiency.

Calculations comparing trade policies that achieve neutrality of incentives between sales to domestic and foreign markets suggest that — under the most plausible scenarios about the entry and exit of firms — export promotion is likely to be more beneficial than protection for sectors with increasing returns to scale.

Illustrative calculations of optimal trade policy packages suggest that the benefits of departing from the principle of nondiscrimination between domestic and export sales may be insufficient to justify their higher administrative costs.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of the PRE research project "The Effects of Trade Regimes on Industrial Competition and Efficiency." Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rebecca Sugui, room N10-031, extension 37951 (15 pages, including tables).

481. The Effects of Trade Reforms on Scale and Technical Efficiency: New Evidence from Chile

James Tybout, Jaime de Melo, and Vittorio Corbo

Pressure from foreign competition forces all firms toward common, higher levels of productivity.

How did industrial structure and performance change after Chile's dramatic trade liberalization?

A comparison of the 1967 and 1979 censuses shows little improvement in productivity overall — but these figures don't separate the effects of trade liberalization from the effects of recession, high interest rates, and real appreciation.

To isolate the effects of trade liberalization, Tybout, de Melo, and Corbo compared industries in which protection was significantly reduced with industries in which it was not. Several findings emerged.

First, in industries for which protection was lifted, the smallest plants tended to expand output more. Cross-plant estimates of returns to scale dropped significantly. These findings are consistent with the view that exposure to foreign competition forces suboptimally small producers toward minimally efficient scale.

Second, production levels became higher and more uniform across plants in those industries undergoing dramatic reductions in protection.

Taken together, these results support the received wisdom that increased exposure to trade improves competition within an industry.

This paper — a product of the Trade Policy Division, Country Economics Department — was prepared for the World Bank research project, "The Effects of Trade Regimes on Industrial Competition and Efficiency" (RPO 674-46). Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rebecca Sugui, room N10-031, extension 37951 (44 pages, including tables).

482. Membership in the CFA Zone: Odyssean Journey or Trojan Horse?

Shantayanan Devarajan and Jaime de Melo

CFA countries fared worse than other comparable countries in the 1980s and reduced spending — particularly investments — disproportionately in adjusting to the external environment. This is an ominous sign for future growth.

For most of the 13 African members of the CFA Franc Zone, the 1980s have been a decade of slow or negative growth in per capita GDP, worsening balance of payments, debt crises, financial crises, declining competitiveness, and an apparent failure to adjust to the changed environ-

ment they inherited from the 1970s.

Devarajan and de Melo reassess the costs and benefits of membership in the CFA Franc Zone in light of its members' poor performance in the 1980s.

They base their assessment on comparisons of the members' performance indicators with indicators for comparator groups: other countries in Sub-Saharan Africa, other low- and middle-income countries, and other exporters of fuel and primary goods.

Performance indicators for members of the CFA Zone deteriorated more than indicators for other groups, especially in the second half of the decade.

Growth and investment rates, in particular, fell more for CFA countries. This decline is attributed to the CFA members' declining competitiveness as other countries undertook adjustment programs that emphasized depreciation of the real exchange rate.

Controlling for changes in the external environment, Devarajan and de Melo show that CFA countries adjusted less than comparator countries during the 1980s.

And the burden of their adjustment appears to have fallen disproportionately on reduced spending, particularly reduced investment — an ominous sign for future growth.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger research effort in PRE on the experience of economic integration. An earlier version of this paper was presented at the Conference on African Economic Issues in Nairobi, Kenya, June 5-7, 1990. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rebecca Sugui, room N10-031, extension 37951 (28 pages, including tables).

483. An Evaluation of the Main Elements in the Leading Proposals to Phase Out the Multi-Fibre Arrangement

Refik Erzan and Paula Holmes

Two approaches took the lead in the negotiations to dismantle the Multi-Fibre Arrangement (MFA): (1) a phaseout within the framework of the MFA, proposed by developing countries, the EC, Japan, and the Nordic countries, and (2) a new transitional structure relying on global quotas with country allotments for current quota holders, suggested by the United States and Canada.

Under both scenarios, accelerated quota growth is the main device for phaseout. Country quotas, in the first approach, and global quotas in the second, will have to expand in such a way as to avoid a "shock" when they are abolished at the end of the phaseout.

To negotiate a quota-growth scenario — whether this be in the framework of the MFA or through global quotas — the parties need points of departure, such as base-year quota levels or quota growth rates. The guideline in the MFA was a 6 percent annual quota growth. Developing countries consider this a concession obtained from industrial markets and request it as the minimum base-year quota growth rate.

In fact, there were large variations in quota growth across products and suppliers, as well as across markets, and on the whole quotas expanded at a significantly lower rate. For the phaseout, the negotiating parties may therefore consider allowing some differentiation in quota growth rates, particularly across product categories.

The second most important element in the phaseout proposals — beside expanding quotas and abolishing them at the end of the phaseout period — is scrapping them along the way according to some predetermined criteria and scheme. In the proposals, this is defined in terms of country characteristics (such as new entrants and least developed countries), specific products, product characteristics (such as type of fibers or degree of processing), or some criterion pertaining to the historical record, such as quota use.

The historical record reveals that growth in highly utilized (that is, filled and binding) quotas was significantly lower compared with unfilled quotas. Phaseout scenarios based on quota growth may have to take into consideration this distinction to achieve an effective relaxation. In this context, scrapping unfilled quotas in stages, depending on their use record, would hasten the dismantling of the MFA by allowing the concentration of efforts to deal with binding quotas.

An MFA-based phaseout is appealing to many developing countries because, in principle, the "acquired rights" of the exporters can be preserved. Not for long, however. When substantial quota expansions take place, as the quotas on efficient suppliers become redundant, quota holdings will be worthless. Interestingly enough, an accelerated quota growth not differentiated across suppliers, as suggested by the developing countries, would do exactly that.

There is one important virtue in a phaseout based on the current structure of the MFA. Not only are the mechanisms in place familiar to the negotiating parties, but so are the magnitudes of most of the parameters: current quota levels, quota growth rates over the last few years, and their use ratios. If this approach is adopted, however, the parties have to make a concerted effort to keep in mind that this is not an extension of the MFA, but its abolition.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to provide technical support to the developing countries in the Uruguay Round of Multilateral Trade Negotiations under the auspices of the GATT and to contribute to the analysis of substantial issues therein that pertain to the broad development objectives of the World Bank. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Grace Ilogon, room S8-038, extension 33732 (46 pages, including tables).

484. Stock Markets, Growth, and Policy

Ross Levine

How stock markets can accelerate growth and how policy can affect that growth either directly (by altering investment incentives) or indirectly (by changing the incentives underlying the creation of financial contracts).

To help explain the role of financial markets in economic development, Levine constructs an endogenous growth model in which a stock market emerges to allocate risk. The model explores how the stock market alters investment incentives in ways that change steady-state

growth rates.

Levine demonstrates that stock markets can accelerate growth by (1) facilitating the ability to trade ownership of firms without disrupting the productive processes occurring within firms, and (2) allowing agents to diversify portfolios across firms.

Policy affects growth directly by altering investment incentives and indirectly by changing the incentives underlying the creation of financial contracts.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to understand the role of financial markets in economic development. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ross Levine, room N11-023, extension 39175 (33 pages).

485. Do Labor Market Distortions Cause Overvaluation and Rigidity of the Real Exchange Rate?

Ramón Lopez and Luis Riveros

Liberalization of the labor market would substantially reduce or prevent overvaluation of the real exchange rate.

Lopez and Riveros developed a theoretical model for analyzing the effect of labor markets on the real exchange rate. They applied an empirical version of the model to four Latin American countries with relatively different labor markets and macroeconomic conditions.

They found that distortions in the formal labor market are a major factor causing real wage rigidity and the low responsiveness of the real exchange rate to nominal devaluation.

They also found that changes in the minimum wage have substantially broader effects on an economy's wage structure than previously thought.

In other words, liberalization of the labor market could make exchange rate policies more effective by preventing overvaluation of the real exchange rate.

This paper — a joint product of the Trade Policy Division and the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to identify the role of labor markets in the process of economic adjustment in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Raquel Luz, room N11-057, extension 34303 (32 pages, including tables).

486. A RMSM-X Model for Turkey

Luc Everaert, Fernando Garcia-Pinto, and Jaume Ventura

The theoretical design of a RMSM-X model, its interaction with a debt module, and the construction of a consistent historical data set is applied to Turkey.

To improve the Bank's macroeconomic modeling capabilities, the Country Economics Department is developing a continuum of macro models referred to as RMSM-X and RMSM-XX. These models share a common accounting framework that ensures economic consistency among economic sectors.

RMSM-X is the simplest model, with an elementary economic structure. The RMSM-XX more richly specifies the behavioral links among economic variables.

Everaert, Garcia-Pinto, and Ventura show in detail how to specify the budget constraints and market clearing conditions in a RMSM-X model for Turkey. They include six sectors: the Government, the State Economic Enterprises, the Central Bank, the domestic banking system, the nonfinancial private sector, and the foreign sector. The different markets consist of a domestically produced and exportable good, an importable, a money market, a domestic credit market, a quasi-market for Central Bank Credit, and a foreign asset market. This model can be used to project the behavior of these sectors in a simple manner, linked through the various markets.

They explain four possible closures of the model. One choice depends on whether policy variables are exogenous (the positive closure) or targets on economic variables are given and policy variables are solved for (the normative closure). Under both closures, a second choice, depending on whether an external credit constraint or target is binding or not, is implemented.

The interaction of the projection model and a debt module is explained in detail. The debt module, which in the future should become automatically linked to the DRS, allows the user to experiment with different forms of debt restructuring in a simple manner. The debt module also allows the calculation of the supply schedule for foreign credit and the projection in detail (by creditor) of debt stocks, capital flows, and interest payments.

Finally, since the model is based on the concept of a consistent flow of funds among all the specified sectors, it is necessary to build a consistent historical data set for at least the base year. Appendix 1 explains how such a set of consistent macroeconomic data was constructed.

The RMSM-X model presented in this paper will be extended to include more estimated behavioral relations (RMSM-XX) for future operational work on Turkey. Applications of the RMSM-X model have also been developed for Colombia, Zimbabwe, Chile, and the Philippines.

This paper — a joint product of the Macroeconomic Adjustment and Growth Division, Country Economics Department and the Country Operations Division, Country Department I, Europe, Middle East, and North Africa Regional Office — is part of a larger effort in PRE to assist in the design and analysis of macroeconomic policies. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sanjev Aggarwal, room N11-019, extension 39176 (59 pages plus 105 pages of appendices).

487. Industrial Organization Implications of QR Trade Regimes: Evidence and Welfare Costs

Timothy Condon and Jaime de Melo

A three-sector calibrated simulation model is used to examine the welfare effects of an increase in quantitative trade restrictions when production in some sectors is characterized by increasing returns to scale.

The empirical evidence reviewed by Condon and de Melo suggests that in developing countries that protect trade with quantitative restrictions (QRs), too many domestic manufacturing firms tend to operate on too small a scale, often making above-average profits.

Cross-section econometric evidence — considering factors that influence profitability in three sectors — supports the view that imports impose a discipline on

the behavior of domestic firms. That is, firms in sectors with heavy imports tend to adopt pricing rules that resemble competitive behavior.

On the basis of this evidence, Condon and de Melo built a three-sector simulation model to examine the welfare effects of an increase in QRs in sectors that have increasing returns to scale. They introduced several model variants to ascertain the effects of industrial organization considerations: firm exits/entries, departures from competitive pricing, interactions between entry and pricing rules, and economies of scale.

They performed numerical simulations on a representative three-sector semi-industrial economy (the sectors being agriculture, manufacturing, and services). The simulations involved progressively tighter QRs, starting from a regime with no QRs.

These simulations suggest that the traditional welfare costs for moderate rationing could be tripled if the manufacturing sector had increasing returns to scale.

A 20 percent rationing of intermediate and consumption goods could result in a welfare loss of about 2 percent of national income if economies of scale and industrial organization are not considered. When industrial organization considerations are considered, the welfare loss could quadruple.

Simulations conducted for alternatives — the entry of enough firms to eliminate profits or oligopolistic pricing with no new firms entering the sector — suggest a trade-off between excessive firm entries and collusive behavior. Collusive behavior causes welfare losses because of anti-competitive pricing but facilitates the exploitation of economies of scale. The welfare gains of moving to competitive pricing through the entry of new firms are mitigated because firms operate on a smaller than optimal scale.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to help developing countries design more effective trade policy. Specifically it is part of a PRE research project on "Industrial Competition, Productive Efficiency, and Their Relation to Trade Regimes." An earlier version of the paper was presented at the meeting of the "Applied Econometric Association" in Istanbul in December 1986. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Rebecca Sugui, room N10-031, extension 37951 (23 pages, including tables).

488. Prepaid Financing of Primary Health Care in Guinea-Bissau: An Assessment of 18 Village Health Posts

Per Eklund and Knut Stavem

Flat-fee prepayment may be the only feasible cost recovery scheme for primary health care in rural villages of Guinea-Bissau. The level of satisfaction was high in this simple prepayment scheme for drugs and limited primary health care in 18 villages. In a larger health system or in an urban area, it might be more difficult to administer such a scheme and to prevent abuse of the system.

With population growth increasing and budgets declining, the need for cost recovery in health care has grown. Eklund and Stavem report on a prepayment scheme for drugs and limited primary health care at 18 village health posts (USBs) in Guinea-Bissau.

At these health posts, adverse selection was reduced because enrollment in each village was almost universal. The villages provided construction materials and labor — and indicated their willingness to pay more if drugs were available on a timely basis. (Drugs are heavily subsidized, and supplies rapidly depleted.)

Despite rapid depletion of drug stocks, the level of satisfaction was high. Villagers' willingness to prepay was often linked to better service, with drugs more readily available and midwives better trained.

Still, the quality of service at village health posts can only be as good as the support they get from the rest of the health care system. Authorities must strengthen health center support services and improve the drug resupply system. Workers at each post could also use bicycles — which might be offered through an incentive or credit scheme.

Flat-fee prepayment may be the only feasible cost-recovery scheme at the village level. In a larger health system or in an urban area, it might be more difficult to administer such a scheme and to prevent adverse selection and overuse of services.

This paper — a product of the Population, Health, and Nutrition Division, Africa Technical Department — was written as part of the Africa Regional Study on Health Financing, with financial support from NORAD and SIDA. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Karol Brown, room J9-112, extension 35073 (50 pages, including tables).

489. Health Insurance in Zaire

Donald S. Shepard, Taryn Vian, and Eckhard F. Kleinau

This in-depth study of health insurance schemes in Zaire recommends developing more pilot insurance systems in areas where health systems already function — and strengthening existing systems through training, exchange visits, information systems, and technical assistance. Implementing a nationwide health insurance system is not likely to be as successful as decentralized, locally managed plans.

After identifying 12 systems of health insurance in Zaire, Shepard, Vian, and Kleinau prepared detailed case studies of four systems (two urban and two rural) and brief studies of four others. The case studies focused on the terms of the insurance plans, their organization and management, resource mobilization, efficiency, equity, client perceptions, and the quality of services. Among the lessons learned:

- Plans vary substantially in the services covered. Consumers found coverage of ambulatory care attractive despite substantial premia or required copayments. Only half the plans covered inpatient care.
- The most successful schemes had modest premia.
- Acceptable quality of service is a precondition for successful implementation of an insurance scheme.
- The implementation of voluntary schemes requires publicity within the community at the outset.
- The risk that insurance plans would be overcharged was limited by the decentralization and direct management.
- Simple control methods, such as printed premium stamps, detailed descriptions of enrollees, and the enrollment of entire families, helped reduce fraud and error.
- Appropriate investment strategies preserved the value of premium income.

Investing in imported drugs was a hedge against erosion of the purchasing power of premia.

• Financial analysis of the insurance systems requires better accounts. Few insurance plans had good financial reports of the health delivery plan, much less of the insurance plan.

• A financial guarantor (for example, a development organization guaranteeing the first year's services) boosts the public's confidence in the insurance system.

• Evidence of adverse selection and moral hazard was found in most plans. Their impact can be moderated by requiring that the entire family joins or by enrolling employee groups.

• Informal associations exist that finance members' health care through interest-free loans to pay for births, hospitalizations, and other emergencies.

This paper — a product of the Population, Health, and Nutrition Division, Africa Technical Department — was written as part of the Africa Regional Study on Health Financing to aid the ongoing sector adjustment dialogue in Zaire. The study received outside financial support from SIDA, NORAD, and the U.S. Agency for International Development. It was presented at a seminar in April 1990. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Karol Brown, room J9-112, extension 35073.

490. The Coordinated Reform of Tariffs and Domestic Indirect Taxes

Pradeep Mitra

Tariff reform for trade liberalization must be seen as part of a broader program of tax reform. Customs duties on imports should be geared chiefly to protection. Reductions in such duties to promote an outward-oriented development strategy should be offset by increases in sales / value-added taxes applied equally to imports and domestic production. That would maintain public revenues and avoid exacerbating macroeconomic difficulties.

Tariff reduction designed to move toward an outward-oriented development strategy will work only if alternative revenue sources can be found to offset revenue losses that often accompany reduced protection. The reason is that such losses can exacerbate macroeconomic difficulties, lead to delays or reversals in trade liberalization programs, and make policy change less credible.

Tariffs on imports do two things: protect domestic producers and raise public revenues. Even the poorest countries have essentially two instruments for fulfilling those two objectives: (i) customs duties and (ii) sales taxes and value-added taxes (VATs) on imports. Since the customs duty raises the price facing domestic producers of an imported good above the world price, it is a subsidy to domestic producers. Since the sales tax/value-added tax, together with the customs duty, raises the price facing users of the import above the world price, they tax domestic users. The customs duty can then serve protection objectives, while the two together can be designed to meet revenue requirements.

Opportunities for radical redesign of the incentive structure are rare. The following integrated structure of taxes cum tariffs provides a point of reference toward which less comprehensive reforms may be directed:

• A uniform basic customs duty of no more than 10-15 percent and an exemption from duty for imported inputs entering export production.

• A basic uniform VAT (preferably on consumption) — the rate determined by revenue requirements — on both domestic production and imports with agriculture exempted, particularly nonmarketed food consumed by the poor.

• A luxury or excise tax applied at a common rate to both domestic production and imports of selected items.

• Zero rating of exports under the VAT.

• Taxes on selected exports either where world demand for the country's exports is expected to remain inelastic or where the country is subject to export quotas.

It is important to view the foregoing elements as part of an interrelated package: for example, attempts to unify customs duties at levels higher than the recommended range would create administrative problems in implementing duty exemptions on inputs entering domestic production.

Coordinated reform of an existing distorted structure of tariffs and domestic taxes would include the following:

• Matching the sales and value-added tax rates on domestic production and imports, to transfer the function of protection to customs duties.

• Bringing customs duties on items for which there is no domestic production and which are therefore purely revenue-raising under the rubric of the sales tax/value-added tax.

• Offsetting any reduction in customs duties with an equivalent increase in the sales tax/value-added tax structure — which, since that tax applies to domestic production as well as imports, would increase revenues. A smaller-than-equivalent upward adjustment in the sales value-added structure would therefore suffice if the change were required to be revenue-neutral.

More realistically, the rate structure might have to be raised beyond the point of revenue-neutrality to allow for assistance to sectors hurt by the tariff reduction. Such assistance, if extended through the budget process, would have the advantage vis-a-vis protective tariffs of being explicit and thus subject to periodic scrutiny.

This paper — a product of the Public Economics Division, Country Economics Department — is part of an ongoing program in the Public Economics Division to explore the relationship between trade liberalization and the public finances in revenue-constrained economies. The paper was prepared for the World Bank Conference on Tax Policy in Developing Countries, held in March 1990. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (47 pages).

491. How Well Do India's Social Service Programs Serve the Poor?

Nirmala Murthy, Indira Hirway, P. R. Panchmukhi, and J. K. Satia

Reaching India's poor calls for greatly improved social service delivery systems, better targeting of the poor, more coordination between agencies, policies aimed at income generation, and more involvement of the poor and of nongovernmental organizations.

This literature review was initiated to fill the research gap on how well social ser-

vice programs serve India's poor.

The authors found that India's social services were used relatively little by the poor — whether they were programs for the general public (such as education), programs targeted to the poor (welfare and social security), or programs meant especially to help the poor (nutrition).

The health and education of the poor has improved but not as much for the population as a whole. Children's nutritional status has changed little in the last 20 years. Legislation to protect the poor cannot be enforced.

The reasons that all social service programs did so little to alleviate poverty are similar:

- Physical access to education and health services has improved but inequalities exist because of biases in locating facilities. The access of the poor to housing, social security, and social welfare services has been limited partly because these services were inadequate relative to needs and partly because services leak to the nonpoor. Existing social service programs tend to maintain the status quo and sometimes even strengthen class differences.
- Social service policies are not comprehensive enough, reflect little understanding of demand, and ignore difficulties of implementation.
- The quality of services is low, their pattern not uniform. Issues common to the social sector delivery systems are weak management, ineffective targeting, and inflexible service delivery systems that result in a mismatch between perceived needs and services delivered. The bureaucracy is inadequate to reach the poor. Existing capacity and resources are inadequate, particularly for education and health.

Evidence from the government and NGO programs suggest that the poor can be reached effectively if:

- Policies focus on them and are linked more closely to income generation.
- An appropriate service delivery system is designed and implemented and efforts to alleviate poverty are integrated into it.
- Services of different agencies are coordinated.
- The poor and nongovernmental organizations (NGOs) are involved and given an appropriate role. NGOs' ability to serve the poor varies. Their coverage is 25 to 30 percent in education and health, but nearly 100 percent in welfare services. The government has been reluctant to involve NGOs in its housing program.

The review found no evidence to link social service inputs to labor productivity.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — is part of a larger effort in PRE to improve the management of poverty reduction programs. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Ernestina Madrona, room N9-061, extension 37483 (73 pages).

492. Automotive Air Pollution: Issues and Options for Developing Countries

Asif Faiz, Kumares Sinha, Michael Walsh, and Amiy Varma

Automotive air pollution will intensify with increasing urbanization and the rapid pace of motorization in developing countries. Without effective measures to curb air pollution, some 300-400 million city dwellers in developing countries will become exposed to unhealthy and dangerous levels of air pollution by the end of the century. Administratively simple policies that encourage clean fuels and better traffic management are the most promising approach to controlling vehicle pollutant emissions in developing countries.

Automotive air pollution, once largely a problem of developed countries, will spread to the developing countries in the next decade because of the rapid pace of urbanization and motorization there.

Rising incomes, combined with more desire for travel and personal mobility, will increase automobile ownership and bus transport in Asia, the Middle East, Eastern Europe, and parts of Africa. The need for fast, reliable distribution of goods, the increasing pace of containerization, and the selection of transport options on the basis of service rather than price alone will increase reliance on trucks for freight transport. As motor vehicle ownership approaches saturation levels in North America, Western Europe, and Japan, most growth will be in developing countries.

Automotive air pollution will be worst in big cities, particularly in Latin America and Asia — but also in Eastern Europe and the Middle East.

The growth in road transport is unlikely to be curbed in developing countries. Possible actions and countermeasures to control automotive air pollution encompass energy efficient and environmentally clean vehicles, clean fuels, traffic management, and a policy framework including regulatory, pricing, and taxation measures. The most promising approach in developing countries, however, is through clean fuels, sound traffic management, and administratively simple policy measures — such as a tax on leaded gasoline combined with a rebate on the use of ethers as octane boosters. This could encourage refineries to change their products and encourage users to substitute more appropriate vehicles. Owners of bus and taxi fleets could be given incentives to run vehicles on alternative fuels — such as LPG, GNG, or alcohol — and vehicle taxes and license fees could be designed to discourage the ownership and use of polluting vehicles.

Appropriate response measures should be based on sound information and cost-effective programs. They should be equitable in their impact on industry and consumers and introduced with enough lead time to give enterprises and consumers time to adjust — to reduce widespread evasion and gain public acceptance.

An emissions control policy should include an emissions inventory to assess the relative contribution of motor vehicles to overall pollution; emission standards based on a realistic evaluation of costs and expected compliance; identification of specific problems and appropriate countermeasures based on their cost-effectiveness; design of a policy framework to ensure success of control measures; an appropriate institutional set-up; and appropriate monitoring and evaluation.

Although there is a consensus on the need to reduce lead in gasoline and sulfur in diesel fuels, knowledge of the cost and effectiveness of various control measures is inadequate. More research is needed in the following areas:

- The characteristics and amount of automotive air pollution in urban areas in developing countries.
- The environmental characteristics of reformulated and substitute transportation fuels.
- The cost-effectiveness of various measures to control motor vehicle emissions.
- An evaluation of vehicle inspection and maintenance programs.

• The environmental management of urban buses and paratransit vehicles.

This paper is the result of an informal collaboration between the Bank's Transport Division, Infrastructure and Urban Development Department, and the Industry and Environment Office of the United Nations Environmental Program on transport-related environmental issues. It is part of a larger effort in PRE to address environmental concerns in the Bank's operational work. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Pamela Cook, room S10-063, extension 33462 (109 pages with tables).

493. Tax Reform in Malawi

Zmarak Shalizi and Wayne Thirsk

Malawi's comprehensive reform of its tax system in the 1980s illustrates many of the issues that developing countries must address when altering the way they levy taxes.

Malawi embarked on a comprehensive tax reform in the mid to late 1980s with World Bank assistance. This paper looks at the problems in Malawi's revenue system that prompted the reform, and examines the nature of the solutions offered and their rationale.

In the early 1980s, the flow of external funds dropped precipitously. This decline coincided with the loss of Malawi's primary foreign trade artery (80-90 percent of exports and imports) due to the closure of rail lines in neighboring Mozambique. These shocks resulted in a sharp increase in the servicing of Malawi's external debt and defense spending, thereby creating a pressing need for more revenue. At first the Government raised the rates on those tax bases that were administratively the easiest to tax, such as trade. By 1985, the tax to GDP ratio had increased by almost 50 percent. However, it was increasingly apparent that the ad hoc, temporary measures were inconsistent with the creation of a more liberal economic environment in the long run. This led to a reexamination of the tax system as a whole.

It was decided that the reformed tax system should build as much as possible on existing instruments, generate at least as much revenue and be at least as equitable. With these constraints in mind, a de facto VAT was created through the manufacturing/import stage by introducing a crediting mechanism in the existing surtax. The change was intended to reduce production distortions arising from the taxation of inputs. The tax was also applied to large agricultural and trading establishments. The import surtax was modified to be consistent with the domestic surtax and the non-protective elements of import tariffs were merged with the reformed surtax. These changes helped shift the base of taxation from production and trade to consumption. Equity features were introduced through a redesign of excise taxes and their merger with the surtax. For companies, existing investment credits and allowances were amalgamated into a single allowance at a higher rate to benefit new investment, keeping the average effective tax rate high for revenue reasons. Small changes were made to simplify personal income taxes. The ground was laid for improving procedures and computerizing tax administration and creating a tax analysis unit.

Most of the recommendations have been successfully implemented over a three year period despite difficult economic circumstances in the country. The new system has even raised more revenue than the old, though that was not a specific goal of the reform. However, since the budget deficit remains high and inflation continues to be a problem, further base expansion will be necessary before the currently high statutory company tax rates and basic surtax can be reduced.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to evaluate tax reform efforts in developing countries (RPO 674-52). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (55 pages, including tables).

494. Alleviating Transitory Food Crisis in Africa: International Altruism and Trade

Victor Lavy

Food aid compensates for up to half the drop in food production during food crises in Sub-Saharan Africa; imports make up another 30 percent. Both stabilize food consumption and neutralize the effects of random shocks to domestic food production.

Lavy compared the role of food aid and commercial food imports in offsetting food "shocks" and covering the shortfall in food consumption in 26 countries in Sub-Saharan Africa.

Food aid to low-income countries with transitory or chronic food insecurity has been criticized on the grounds that:

• The international response to food crises is slow, meager, and inefficient.

• Food aid is discriminatory, depending on the recipient country's political and economic orientation.

• Food aid discourages domestic food production and encourages dependence on donors.

• Food aid depresses commercial imports of food, reducing the amount of food available.

• By alleviating shortages food aid allows countries to postpone or cancel politically costly economic reform.

But Lavy found that:

Food aid and commercial food imports stabilize food consumption and neutralize the effects of random shocks to domestic food production. Food aid compensates for up to half of the drop in food production; imports make up an additional 30 percent.

In other words, every one-ton drop in cereal production is offset by the delivery of 0.8 tons of cereal and dairy products from abroad. There is a lag in this response over a four-year period, but most of the aid is received in one to two years.

Surprisingly, the pattern of aid flows provides no evidence of discrimination by donors. Countries classified as socialist with military governments, and countries that do not protect human or political rights, receive an equal amount of aid during acute food shortages.

This paper — a product of the Welfare and Human Resources Division, Population and Human Resources Department — was written under the auspices of the African Food Security Unit of the World Bank, as a background paper to the Bank's study, *Food Aid in Sub-Saharan Africa*. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Brenda Rosa, room S9-114, extension 33751 (25 pages).

495. The Changing Role of the State: Institutional Dimensions

Arturo Israel

The quality — not the size — of the state is what counts. And a prerequisite for changing the role of the state is an improved political process. Without that, any new development strategy will fail.

Most countries struggling to achieve economic growth and broader development objectives in the last 10 years have changed their strategies to incorporate two basic thrusts: a consistent macroeconomic and sectoral policy framework and a diminished role for the public sector, with more reliance on the private sector.

Israel emphasizes four points in this paper:

First, the argument that the size of the public sector must be drastically reduced has probably been taken too far, with no real analysis of the full consequences of the shift. Often the dismantling of some functions implies the establishment of others. (The existence of a competitive market is more important than private ownership.)

Second, a prerequisite for successful development of the private sector is a modernized, highly efficient public sector — particularly in key areas of policy management and regulation. The quality of the state is at issue, not its size. That quality depends on the state's being able to do at least five things in economic management:

- Design, monitor, and implement consistent macroeconomic and sectoral policies.
- Provide an enabling environment for competition, private or public.
- Privatize wisely and effectively.
- Conduct an effective dialogue with the private sector.
- Operate the remaining public enterprises more effectively.

To do each of these things, government will need fewer mid-level employees and more high-level professionals.

Third, the number of activities the public sector can safely and effectively undertake is limited. To force additional functions on the public sector increases exponentially the chances of failure and poor performance.

Fourth, a prerequisite for changing development strategy is a more effective *political* process. Seldom mentioned, this point is crucial — otherwise the new development strategy will fail. Ingredients of a more effective political process include a long-term perspective in policy design; a minimum level of stability in policy; a low level of corruption; and a general sense that political control does not necessarily imply public ownership or operation. These points are widely accepted in principle but not in practice, says Israel.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — was produced as background material for the Conference on Institutional Development held in December 1989. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Zeny Kranzer, room N9-051, extension 37494 (35 pages).

496. Issues in Evaluating Tax and Payment Arrangements for Publicly Owned Minerals

Robert Conrad, Zmarak Shalizi, and Janet Syme

No single revenue instrument can be assumed to be superior for mineral-dependent developing countries. And more than one instrument may be needed to meet a government's multiple objectives.

Many developing countries depend heavily on mineral extraction to generate fiscal revenue and earn foreign exchange. Are these countries collecting enough in return for depleting their reserves? Are they carrying too much of the risk? Conrad, Shalizi, and Syme describe work in progress to develop a practical framework for analyzing these questions.

In the first part of the paper they review the central issues that must be addressed in designing mineral tax and payment schemes. They note the need to determine both the opportunity cost of mineral extraction (including externalities vis-a-vis other sectors of the economy) and the costs borne by the country through risk-sharing arrangements.

Observing that at present there is no practical analytical framework to analyze tradeoffs or determine the rate structure for different revenue generating instruments, they introduce a simple cash-flow model in the second part of the paper. With this model they illustrate how different instruments affect risk-sharing between the government and the producer. Applying criteria for ranking revenue instruments to three typical instruments — royalties, income taxes, and resource rent taxes — they conclude that although profit- and rent-based taxes are gaining in popularity over production-based taxes, no single instrument can be presumed to be superior for mineral-dependent developing countries. Each country has different endowments and faces different risks. These factors must be taken into account when selecting instruments and determining rates. In some cases production-based payments, such as royalties, may be justified and should not be systematically deemphasized as they are now.

Using simple models of the type described in the paper will enable governments to engage in reasonably sophisticated risk analysis at a relatively low cost when designing tax and payment arrangements. Further work is required to develop a practical framework which models additional tradeoffs.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to identify mineral payment/tax systems in developing countries that are simple, fair, and efficient. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (50 pages with figures and tables, plus 19 pages of appendices).

497. The Measurement of Budgetary Operations in Highly Distorted Economies: The Case of Angola

Carlos Elbirt

A proper measurement of Angola's 1989 budget should reflect the tremendous difference between official and parallel market prices at which transactions are undertaken. If all transactions are "valued" at parallel market prices, the budget deficit for 1989 would drop from 22 percent to 12 percent.

In a highly distorted economy such as Angola's, budget accounts can be misleading — because prices in the parallel market, including the exchange rate, rep-

resent up to 100 times official prices.

Parallel prices are the real opportunity costs for consumers and guide them in their decisions. So budget accounts may not truly show the resources they are supposed to measure.

Angola's government collects taxes and pays expenses in two currencies: strong kwanzas (with attached buying rights, such as access to hard currencies or goods) and weak kwanzas (which must be used in the parallel market).

In adjusting Angola's 1989 budget, Elbirt assumed that all tax revenues or transfers from oil companies were in strong kwanzas, all other taxes and revenues in weak kwanzas, and expenditures varied. He found the composition of revenues in the adjusted budget to be totally different from the nonadjusted one. Oil revenues represent 98 percent of revenues, not 48 percent, as in the original budget. So dependence on oil revenues is underestimated.

The composition of spending also changes, but not as radically. Wages remain the largest item. Extrabudgetary items rank second, rather than third, among expenditures — at 24 percent, not 12 percent.

Should Angola's exchange rate and prices be liberalized, the budget for 1989 would tend to look like this adjusted budget — because the conversion prices used to adjust the budget resemble market prices. So the impact of policy adjustment would be as follows:

- The deficit would decline from 22 percent of GDP toward 12 percent, depending on the extent of price and exchange rate adjustments. Nominally the budget deficit would increase, but that would be a mere accounting change.
- Any additional reduction of the budget deficit would require active budget policies. In Angola, the wage bill and extrabudgetary expenditures account for more than half of government spending, so those items would have to be cut. Personnel costs account for more than 16 percent of GDP: cutting them by 10 percent would reduce the deficit by more than 10 percent.
- Wage remonetization should be neutral in terms of the nominal deficit of the consolidated public sector (the central government, parastatals, and financial institutions). The extra benefits parastatals would enjoy from price liberalization would compensate for the central government's extra spending on wages, if price liberalization and wage remonetization are strictly synchronized.

This paper — a product of the Country Operations Division, Southern Africa Department, Africa Regional Office — is part of a larger effort in the World Bank to study a highly distorted economy with a view to identifying appropriate development policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Terry Gean, room J11-250, extension 34247 (16 pages).

498. The Build, Operate, and Transfer ("BOT") Approach to Infrastructure Projects in Developing Countries

Mark Augenblick and B. Scott Custer, Jr.

In a typical BOT infrastructure project, a private-sector project company builds a project, operates it long enough to pay back project debt and equity investment, then transfers it to the host government. Does the BOT approach work? It can. But if the same project can be implemented as a turnkey construction contract financed by sovereign borrowings, the time saved and the greater certainty of the project going forward may warrant the more traditional approach.

Augenblick and Custer review the BOT (build, operate, and transfer) approach to building and financing such infrastructure projects as power plants, toll roads, port facilities, transmission lines, and water supply systems in developing countries.

In BOT projects, private-sector sponsors — usually international construction contractors, heavy equipment suppliers, and plant and system operators, often together with local partners — make equity investments (typically 10-30 percent of the total project cost) in a private project company that will *build* the project, *operate* it long enough to pay back the project debt and equity investment, and then *transfer* it to the host government.

The project company raises debt financing (typically 70-90 percent of project costs) from commercial sources, usually backed by export credit guarantee agencies and by bilateral and multilateral lenders. Substantial support from host governments is required.

The BOT approach was developed in the late 1970s in response to constrained developing country budgets and a downturn in work available for international construction firms. Construction firms may no longer be as interested in promoting BOT projects as they were earlier. Many BOT projects have been proposed, but few have proceeded to financial closure, let alone full implementation, in developing countries.

The BOT formula for infrastructure projects is by no means a panacea, conclude Augenblick and Custer. BOT projects are exceedingly complex, financially and legally. If countries can implement the same project in a more traditional way — with sovereign borrowings financing a turnkey construction contract — the time saved and the greater certainty of the project going forward may warrant the more traditional approach.

But if a country is unable — or for budgetary or policy reasons prefers not — to finance all needed infrastructure from budget resources or sovereign borrowings, the BOT approach is one option. And in the right context it appears to be workable.

Moreover, BOT projects should become easier to negotiate and implement as their basic structure is better understood and as standard solutions to common issues become more accepted by host governments and in the marketplace.

A BOT project may provide some "additionality" in tapping sources of private financing that otherwise might be unavailable. The sponsors' commitment of substantial equity to a project assures that they will remain committed to the project's successful operation over the concession period. Their "at-risk" investment provides a strong incentive to have the project perform above its minimum expectations. If the project is properly structured, the benefits of such enhanced performance will be shared with the host government. Having the design, implementation, and operation of a BOT project largely in the private sector's hands may provide economies and efficiencies that balance or even outweigh the higher financing costs of nonsovereign borrowing and equity investment.

But a host government that wants to promote BOT projects must understand and be willing to accept the complexity and time-consuming nature of the process, the extensive host government support that must be provided, and the rates of return that commercial lenders and private equity investors will expect.

This paper — commissioned by the Bank's Legal Department and co-sponsored by the Technical Department, Europe, Middle East, and North Africa Regional Office and by the Infrastructure and Urban Development Department — is part of a larger effort in the World Bank to review different techniques of privatization of traditional public sector activities, examine how they have been applied in practice, and evaluate their strengths, their shortcomings, and the conditions for their successful application in World Bank member countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Dolie Schein, room F4-026, extension 70291 (51 pages, plus 46 pages of annexes).

499. Taxing Foreign Income in Capital-Importing Countries: Thailand's Perspective

Chad Leechor and Jack M. Mintz

Disregarding the international dimension of tax policy is risky. Foreign tax regimes and international tax-planning practices of companies can frustrate domestic goals of taxation.

In this paper, Leechor and Mintz propose a framework for analyzing international-income taxation. The standard approach, involving the user cost of capital, is extended to incorporate the role of tax policy implemented by the home country. The usual presumption that only taxes of the host country matter is shown to be invalid, except under very restricted circumstances. The authors also apply this new framework to an empirical analysis of Thailand's policy issues.

Tax provisions of home countries vary significantly. Of particular relevance are (1) whether remitted earnings are taxed at home, (2) if so, whether they receive any unilateral tax relief, that is, deduction or foreign tax credit, (3) whether the home country accepts tax sparing, which allows firms to retain the tax benefits provided at source, and (4) the scope and extent of deductible expenses, which generally differ from those of the host. These provisions may counteract the host's tax measures, particularly the use of tax concessions.

Also of interest to the host are firms' international tax planning opportunities. First, in an increasingly integrated world economy, firms have considerable freedom in redeploying capital across countries. Second, there is substantial scope for firms to reallocate income and expenses between the host and the home countries through internal pricing policies. Third, firms can devise an advantageous financial structure by choosing appropriate debt-equity ratios and by borrowing in a country where treaty provisions are favorable. These strategic decisions can circumvent the host's effort to raise taxes.

Thailand has come to grips with many of the issues. It has sought and achieved double-taxation agreements with most of its trading partners. It has attracted substantial foreign investments and collected the attendant revenue. Its tax policy remains vulnerable in many areas, however. There are, for example, inadequate safeguards against excessive leverage, transfer pricing, and treaty shopping. Its strategy concerning tax incentives could also be strengthened to remove the barriers for extending the treaty network and enhancing regional coordination.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to understand the impact of tax policy on capital formation in an open economy. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (97 pages with tables).

500. Projecting Fertility for All Countries

Eduard Bos and Rodolfo A. Bulatao

New procedures for projecting fertility for all countries incorporate past trends to generate short- and long-term population projections.

As part of its worldwide population projections, the Bank annually provides projections of fertility in each country. This paper reviews and updates the procedures for making fertility projections.

Bos and Bulatao classify countries as pre-transitional, transitional, and post-transitional on the basis of current fertility and recent trends — and examine trends separately for each group of countries. A basic assumption underlying the analysis is that fertility will fall in all countries from high levels during the pre-transitional stage, to declining levels during the transition, and to low levels during the post-transitional stage. The start of this fertility transition process is identified in the analysis by a decline in the total fertility rate of at least 0.5 points over five years.

Focusing on the transition stage, Bos and Bulatao analyze trends for countries or economies that experienced at least part of the fertility transition after 1955. They use three data sets: World Bank estimates of fertility in the latest quinquennium; survey, census, and registration-based fertility estimates; and World Bank estimates corresponding to the two decades immediately following initial transition. The three data sets produce somewhat different estimates of the rate of decline. The average rate of total fertility decline across all the data, 0.12 annually, is subsequently used as the medium decline pattern. Slow and rapid fertility decline are defined as half and twice the medium decline rate.

Regression analysis is used to estimate the relationship between the current rate of decline in fertility and a number of socioeconomic variables. Differences in the rate of fertility change during the transition are partly explained by socioeconomic indicators, but the addition of the previous rate of change as a predictor improves the model significantly. Models with just the previous rate of change fit almost as well as those including the socioeconomic indicators.

Focusing on the pre- and post-transitional stages, the authors carry out additional analyses of fertility patterns. Pre-transitional fertility trends show little pattern. The start of the transition cannot be reliably predicted but appears, from previous analyses, to be subject to a mortality threshold. Post-transitional fertility trends also show little pattern. The shift from transitional decline to the post-transitional stage involves slower fertility decline, and alternative patterns of slowing are distinguished.

The results of the analysis are translated into rules for projecting future fertility rates. These rules allow future fertility trends to be defined from previous

trends country by country — and incorporate changes in total fertility with projected reductions in high levels of primary sterility. To allow long-run projections, the rules assume that all countries eventually converge to replacement fertility.

The results of applying the rules are illustrated for eight countries and compared with previous World Bank projections and projections of the United Nations Population Division.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a continuing effort in PRE to produce sensible and fully documented population projections. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (28 pages, with figures and tables).

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501. Tax Systems in the Reforming Socialist Economies of Europe

Cheryl W. Gray

As socialist countries move toward market systems, tax policy is an important part of the reform agenda.

This paper lays out some of the broad trends and issues now emerging as socialist economies attempt to reform their systems of taxation. Particular attention is paid to Hungary and Poland, the most advanced in the reform process, but short discussions of Czechoslovakia, Yugoslavia, and the U.S.S.R. are also included.

Although the fiscal system of every socialist country has its unique characteristics, there appears to be a distinct series of stages through which these systems have passed or will pass on the road from full central planning to a largely free market economy. The first stage, *classical socialism,* prevailed in the first two to three decades after World War II and was characterized by central control of many economic variables—including input and output mix, pricing, and income distribution. Tax systems tended to be very rudimentary tools to capture economic surplus and transfer revenues to the state. Taxes consisted primarily of a mixture of turnover taxes and taxes on factors of production. They were paid almost exclusively by firms in the socialized sector.

The second stage, *reform socialism,* began in the 1960s and early 1970s in many socialist economies and remains until today in some. It has typically coincided with expanded decentralization of economic decisionmaking and greater autonomy for enterprise managers — and been characterized by the emergence of a fledgling independent role for the tax system in directing economic activity. In this stage the traditional sources of revenues — the turnover, company profits, and payroll taxes — remain the most important taxes, but they become more fine-tuned. They are often joined by new and unique taxes that attempt to mimic market forces, such as a levy on fixed assets, an excess wage tax, and a tax to extract rents from CMEA trade. The incentive effects of taxes in this stage tend to be muted by the very ad hoc, discretionary, individually negotiated nature of tax liabilities.

Several countries of Eastern Europe are now moving into the third stage, *post-socialist transition.* The tax changes needed to adapt to a market economy are fundamental and systemic. But three sets of problems — related to macroeconomic concerns, enterprise ownership and structure, and institutional weakness — impose constraints on the design of tax policy during the transition. Maintaining revenues to insure budget balance is crucial for macroeconomic stabilization. However, institutional weakness combined with the demands of rapid privatization threaten to erode the traditional revenue base (based as it has been on high rate and often ad hoc and discretionary taxes that are incompatible with private sector development). These constraints are well-illustrated in the current fiscal situation in Hungary and Poland, and they are likely to arise in other countries—including Czechoslovakia, Yugoslavia, and the U.S.S.R. — as they move toward fundamental fiscal reform.

This paper—a product of the Socialist Economies Division, Country Economics Department—is part of a larger effort in PRE to study the process of transition in reforming socialist economies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Lois Lockyear, room N6-040, extension 36969 (29 pages).

502. Patents and Pharmaceutical Drugs: Understanding the Pressures on Developing Countries

Julio Nogués

Lengthen effective patent protection in industrial countries and press developing countries to introduce patent protection. These two tactics have become important parts of the R&D-intensive pharmaceutical industry's strategy to regain losses in market share associated with more stringent drug safety regulations and increased competition from generic drug companies.

For legal and economic reasons, patents allow drug-inventive companies to appropriate the returns from their innovations. Patents sustain high monopoly prices that provide rents to undertake further R&D and allow the invention of new drugs.

Much of the developing world — with very poor innovative capabilities — provide weak or no patent protection for pharmaceutical drugs. Moreover, some countries have not signed international patent agreements, and they provide no enforcement or dispute settlement mechanisms. To confront this situation, industrial countries have resorted to bilateral and multilateral pressures. For example, industrial country negotiators at the Uruguay Round (especially Japan, the EC, and the United States) have proposed that patents be offered in all fields (including pharmaceuticals), that they last 20 years from date of application, that compulsory licenses be applied only in extraordinary circumstances, and that a strong dispute settlement mechanism be established. By historical standards, these homogeneous proposals are unique. In general, developing countries have opposed these reforms. Some of them, such as Brazil and India, have done so explicitly.

Nogués indicates that the R&D-intensive pharmaceutical industry is one of few for which patents are a major instrument for protecting the returns from innovations. In this industry, investment in R&D is comparatively high, and drugs are easily copied. Under these circumstances, the legal protection of patents is of crucial importance in determining the market performance of the R&D-intensive pharmaceutical industry.

Stringent regulations introduced in the 1960s — to protect consumers from risky drugs—increased the costs of R&D in the U.S. pharmaceutical industry and reduced effective patent life (because the time needed on testing for complying with drug safety regulations has increased quite significantly). This reduces the profits per dollar invested in R&D. Also during the 1980s, several institutional changes seeking to reduce medical costs facilitated competition from generic drugs and squeezed the sales of the R&D-intensive industry. Finally, the potential market for patented drugs in developing countries is no longer trivial.

So this powerful industry is lobbying strongly for longer patent protection domestically and stronger protection in developing countries.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to understand the economic impact of intellectual property

rights. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Maria Teresa Sanchez, room S8-040, extension 33731 (41 pages).

503. Household Production, Time Allocation, and Welfare in Peru

John Dagsvik and Rolf Aaberge

Simulation exercises suggest that it is difficult to reduce inequalities in per capita consumption by changing wage and education policies.

Dagsvik and Aaberge use data from the Peruvian Living Standard Survey (PLSS) to analyze (1) inequality in the distribution of income, (2) men and women's participation in the labor market and variations in their work hours, and (3) the relationship between variations in the labor supply and income inequality.

Their purpose: to study the effect of changes in education and wage rates on production, consumption, and allocation of time. For example, how many men and women would participate in wage work if education were increased? How would policy changes affect the mean level and degree of inequality in the distribution of economic welfare?

They conclude:

Entrepreneurial income is the most important source of income in rural and other urban areas. Male wage earnings contribute almost 40 percent of the household's consumption, which seems to reflect their share of total household hours of work. Women's earnings contribute about 17 percent of consumption.

But consumption and welfare are considerably less equally distributed than hours of work.

Proportional wage changes have only a small effect on behavior. Remarkably, wage increases also have little effect on the unequal distribution of per capita consumption. Even when wage rates are increased by the same amount the indirect effect is small — but the increase does moderately reduce the inequality in distribution of per capita consumption.

Dagsvik and Aaberge use a decomposing method to analyze income inequality. They use a structural neoclassical model to analyze household production, consumption, welfare, and allocation of time. They use per capita (or per adult equivalent) household income or consumption as an indicator of welfare. This paper — a product of the Women in Development Division, Population and Human Resources Department — is part of a larger effort in PRE to determine if and how women's productivity (and thus family welfare) are improved when women are given more access to education, extension, training, credit, health care, and other public resources. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Maria Abundo, room S9-125, extension 36820 (46 pages with figures and tables).

504. Applying Tax Policy Models in Country Economic Work: Bangladesh, China, and India

Henrik Dahl and Pradeep Mitra

Applications of general equilibrium models to different problems arising in tax policy — such as identifying desirable tax bases in Bangladesh, analyzing price controls in China, and coordinating tax-cum-tariff reform in India — show how useful they can be in supplementing more qualitative judgments. But they are useful only if substantial effort is devoted to establishing a consistent data set and to choosing the structure of the model in a way that makes its behavior consistent with what good economic analysis would suggest.

While general principles can guide the design of the overall contours of a tax reform package, models for tax policy analysis can complement analysts' judgments in important and replicable ways. Dahl and Mitra show their usefulness with three examples.

They use a tax policy model for Bangladesh to show how one can analyze the revenue and incidence effects of a tax reform proposal of the kind that arises in country economic work. For each sector of the economy, the model is asked: how much must an ad valorem excise tax be raised in that sector to generate an additional one percent of *total* indirect tax revenue? The results show how the burden of tax increases in each sector is distributed across different rural and urban socioeconomic groups and how it affects such variables as the consumer price index and the trade deficit. Since each sector is asked to contribute the same amount of revenue, the results can be compared across sectors to show which of them are better candidates for increased taxation in an overall reform package.

The revenue and incidence effects are then combined in a single measure that allows one to rank the sectors by the efficiency-cum-equity cost of raising revenue. Those rankings are used to compare traditional with general-equilibrium-based approaches to incidence analysis, a comparison that underlines the importance of assumptions about the labor market and about substitutability in production in formulating tax policy proposals.

In their second example, Dahl and Mitra use a tax policy model based on data from China to examine the desirability of recommending broad uniformity of tax rates among sectors. Such uniformity may yield acceptable outcomes in market-based economies, but the model shows that losses from uniform taxation can be very significant in a decentralizing socialist economy — where some production is centrally planned and subject to price controls and some is subject to decentralized decision-making and transacted at market prices.

Their third example, drawn from an ongoing study in India, shows how two models — one sectorally disaggregated but macroeconomically simple, the other macroeconomically richer but sectorally aggregated — can be implemented on a common data base to help study the coordinated reform of tariffs and indirect taxes. The combined models can be used to calculate how much indirect taxes must be increased, after a reduction in tariffs undertaken to promote an outward-oriented development strategy, to produce enough revenue for the government to meet its expenditures without changing the current account deficit.

Finally, Dahl and Mitra discuss the costs of constructing general equilibrium models for tax policy analysis — and implications for data requirements and judgments about modeling strategy. The most effort must be devoted to (1) establishing a consistent data set and (2) calibrating the model in a way that allows its behavior to be consistent with what good economic analysis would lead one to expect. These costs must be set against the benefits of the modeling approach to tax policy analysis in developing countries.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in

PRE to develop techniques to help policymakers in developing countries identify the implications of different tax reform packages for revenue, efficiency, and equity. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (46 pages, including tables).

505. Creating the Reform-Resistant Dependent Economy: The CMEA International Trading Relationship

Arye L. Hillman and Adi Schnytzer

How the CMEA system of international trade affected enterprise incentives and inhibited market-oriented domestic reform in the Eastern European socialist economies.

In analyzing the framework for international trade of the Eastern European socialist economies — the Council of Mutual Economic Assistance (CMEA) — Hillman and Schnytzer depart from the traditional focus on distortions in socialist international trade.

Instead they analyze the CMEA trading relationship using the standard concepts of (1) specialization in accord with comparative advantage, and (2) the incentives to resist trade liberalization (or any change) because of rents accruing to industry-specific factors of production (including job security that sustains hidden unemployment).

Hillman and Schnytzer describe how CMEA trade was negotiated, and demonstrate that the CMEA system of trade sustained a dependency relationship between the Eastern European economies and the Soviet Union that inhibited market-oriented liberalization and adjustment.

They focus particularly on Poland and Hungary, wherein during the 1970s and 1980s governments sought to introduce market-oriented reform. The Polish government designed several programs to "rationalize" domestic economic activity and in the early 1970s made a concerted effort to upgrade Polish industry using imported western technology and capital. But the Polish economy did not depart much from the centrally planned socialist system and remained firmly embedded in the CMEA.

In principle, central planning ended in Hungary in 1968, and the system of "market socialism" was introduced to encourage a decentralized domestic market economy and a western orientation in international trade. When the socialist political monopoly ended in 1990, however, "market socialism" had yielded neither a western-oriented nor a western-type market economic system.

CMEA trade was intimately linked to the failure of reform to take hold in Poland, to the lack of progress under Hungarian market socialism, and to the other Eastern European economies' lack of interest in western-oriented reform. Once the dependence relation was established, the costs of disengaging from the CMEA were high, as Albania exemplified.

Eastern European economies benefited in the 1980s from preferential terms of trade that provided an implicit subsidy from the Soviet Union. But the Soviet Union also provided "hard" goods potentially saleable for hard currency (oil, natural gas, and raw materials) and took in exchange "soft" goods (machinery, equipment, etc.) that were not of sufficient quality to be marketable in the west (if at all) at prices that would recover costs. This trading pattern made the capital of the Eastern European enterprise *transaction-specific*: the capital could produce goods that were acceptable, *specifically*, for CMEA *transactions* only. The consequence was the very dependence and potential for opportunism in CMEA trade that in the West is avoided by internalizing transactions within the firm. Reflecting the prior dependence relationship and enterprise incentives to resist western orientation, the abolition of the CMEA trading system and the transition to world prices will impose a substantial terms-of-trade loss on the Eastern European economies, and the integration of CMEA and western markets will undermine the value of domestic CMEA transaction-specific capital stock of the enterprises.

This paper — a product of the Socialist Economies Reform Unit, Country Economics Department — is part of a larger effort in PRE to investigate how the legacy of the past institutional arrangements in the Eastern European economies affects restructuring and liberalization opportunities. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact CECSE staff, extension 37176 (28 pages with tables).

506. Changes in Food Consumption Patterns in the Republic of Korea

Merlinda D. Ingco

Diets have been changing rapidly in the Republic of Korea, where fast income growth and urbanization favor the consumption of beef, pork, chicken, and wheat flour and discourage the consumption of rice, barley, and fish. The result could be rice surpluses and higher beef prices.

Urbanization and income growth explain the increasing consumption of beef, pork, chicken, and wheat flour, and the proportionate decline in the consumption of rice, barley, and fish.

Continuing urbanization and income growth should simply reinforce these trends. The same phenomenon is occurring in other rapidly growing Asian countries with similar dietary profiles.

The implications for estimating demand are important.

First, there is a declining trend in the income elasticity of rice, which became negative in the 1980s. So, rice surpluses will grow if production growth rates are not reduced.

Income elasticities of demand for beef are relatively high, so expected increases in real income will continue to put upward pressure on beef prices, unless beef import quotas are expanded more rapidly or eliminated.

Second, the relatively high own-price elasticities for meats — particularly beef and pork — imply that reduced protection for Korean meat producers would significantly increase per capita meat consumption.

This paper — a product of the International Commodity Markets Division, International Economics Department — is part of a larger effort in PRE to understand the changes in food markets in developing countries, especially in those countries experiencing rapid income growth. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Aban Daruwala, room S7-042, extension 33713 (47 pages with figures and tables).

507. Poverty in Poland, Hungary, and Yugoslavia in the Years of Crisis, 1978-87

Branko Milanovic

The deep economic crisis in Eastern Europe in the 1980s substantially increased the number of people living below the poverty line. Before the crisis, most of the poor lived in rural areas. Now most of the poor (as many as 70 percent in Poland) live in cities.

The deep economic crisis in Eastern Europe between 1978 and 1987 greatly affected average incomes and increased the proportion of people living below the poverty line.

The situation deteriorated most sharply in Poland, where declining incomes caused the percentage of poor people to increase from less than 10 percent of the population (before the crisis) to more than 20 percent. In Yugoslavia the proportion of poor people increased from 17 percent to 25 percent. In Hungary poverty remained at about the same level as before the crisis (less than 15 percent).

The distribution of poverty changed in all three countries. Urban poverty became dominant, as the economic condition of state sector workers — manual and nonmanual — deteriorated much more than that of agricultural and mixed (rural-urban) households. Before the crisis, most of the poor lived in rural areas. Now most of the poor (as many as 70 percent in Poland) live in cities.

Increases in poverty are explained entirely by declining incomes; overall, income distribution did not change and in some cases even "improved." But when such redistribution did occur, it was insufficient to offset the impact of declining incomes.

This paper — a product of the Socialist Economies Reform Unit, Country Economics Department, and the first such Bank study done for Eastern Europe — was prepared as a background paper for the World Development Report on poverty. It is part of a larger PRE effort to understand the factors that contribute to poverty. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Angelica Bretana, room N6-025, extension 37176 (30 pages with tables).

508. A RMSM-X Model for Chile

Luis Serven

A simple macroeconomic model is applied to macroeconomic data for Chile.

The RMSM-X model for Chile is one of a sequence of models that also includes, in increasing order of complexity, the RMSM-XX and MACOR models. The three models share the same budget accounts for an economy disaggregated into several sectors — such as private, public, financial, and foreign — and organized in a flow-of-funds framework.

The models differ in their representation of economic behavior. RMSM-X combines a simple behavioral structure with the basic accounting framework and can be solved recursively to obtain macroeconomically consistent projections for a set of endogenous variables. RMSM-XX will more completely specify the links among economic variables and will require a simultaneous solution procedure. MACOR will be a standard medium-size macroeconometric model that will introduce a more sophisticated behavioral structure into the basic accounting framework.

The model presented in this paper is solved recursively but incorporates some simple behavioral rules to determine private consumption, money demand, imports, and exports.

Serven describes two possible solution procedures (or closure rules) for the model, which allow it to address two types of policy questions.

The first, the "normative" closure, can be used to investigate what macroeconomic policies (fiscal, monetary, or exchange rate policy) would be required to achieve given targets in terms of growth, inflation, and the like.

The second, the "positive" closure, can be used to examine the effects of a given set of economic policies (including fiscal, monetary, and exchange rate policies) on growth, inflation, and the like. Other closure rules can be implemented but are not described in detail in this paper.

The macroeconomic model for Chile described in this paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a series of models for analyzing macroeconomic policy options that are being developed in collaboration with Country Operations divisions. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Susheela Jonnakuty, room N11-039, extension 39074 (105 pages including tables).

509. The Childbearing Family in Sub-Saharan Africa: Structure, Fertility, and the Future

Odile Frank

Sub-Saharan Africa has not joined the global demographic transition. Africa's eventual transition to fertility decline may depend more than it has elsewhere on functional changes in the family and changes in the family structure.

Sub-Saharan Africa is lagging behind the rest of the world in what otherwise seems to be a global — encompassing even the giant, China — demographic transition to fertility decline.

Representing as it does only 9 percent of the world population, one might ignore Africa's departure from the norm, assuming it would inevitably catch up with the other countries. But it is not so clear that fertility decline will occur in Africa, where the structures underlying demographic behavior are different from structures not only in the developed world but in other developing countries as well.

As wives and mothers, African women seem to be more economically independent and autonomous in their households than in any other region — yet in terms of family structure and status they are as dependent as women are anywhere else. So, houses headed by women in Africa are not as handicapped economically as in other regions.

At the same time, since the wife and mother bears the economics of childbearing rather than the husband and father, Africa's eventual transition to fertility decline may depend on functional changes in the family and changes in family structure more than demographic change elsewhere has.

Drawing on literature about Africa and household data on Côte d'Ivoire, Frank describes the structure and characteristics of the childbearing family in Africa; their implications for fertility, fertility regulation, and demographic trends; and

their relevance to Africa's future.

Typically, for example, the African childbearing family is segmented, consisting of a husband and father who is head of the household but not necessarily a breadwinner, and an economically autonomous wife and mother. Each parent is more strongly affiliated by lineage than by marriage bond, so there is a cleavage in the "nucleus" of the family — and norms for breadwinning and childbearing are separately reinforced and not necessarily considered relevant to each other.

Women have the primary responsibility for sustaining their families, which they do primarily through subsistence farming — yet African women rarely own land. Men own the land and their children are granted use rights. A woman is granted land use rights so she can provide for the family of her husband. This guarantees the husband's rights not only to the wife's children but to many years of her labor — which may continue even when the husband takes other wives — so although the initial cost to the husband of commanding a brideprice is high, childbearing becomes virtually costfree to him. One outcome of this economic arrangement is that incomes and budgets are not pooled in the childbearing family unit.

The economic independence of women often makes then de facto heads of household, a situation that is reinforced by the migration of males to cities for wage labor. Data in this area reveal that the proportion of women participating in the labor force (especially agriculture) increases rather than decreases with age; headship of household is often attributed to men, possibly on the grounds of their social status and presence; women who are heads of household are not particularly at a disadvantage; and women have more access to land when they live in a man's household.

Frank analyzes the present types of family structure and divisions of responsibility and forecasts four scenarios, what she calls the feminist, impoverishment, Americas, and Caldwellian scenarios.

She also discusses the importance of gender roles and fertility-regulating behavior in Sub-Saharan Africa — particularly the importance in the African family structure of child fostering.

Finally, she addresses the methodological difficulties of conducting research on family structure and fertility if Africa, and outlines an agenda for research.

This paper — a product of the Welfare and Human Resources Division, Population and Human Resources Department — is part of a larger effort in PRE to understand fertility and family formation issues as they relate to the living conditions of households in the developing world. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Brenda Rosa, room S9-137, extension 33751 (54 pages).

510. Public Expenditure Reviews for Education: The Bank's Experience

Antoine Schwartz and Gail Stevenson

Bank experience with — and ways to improve — the analysis of education issues in public expenditure reviews (PERs).

The Bank's increased focus on policy-based lending lies behind the Bank's shift from traditional public investment reviews (PIRs, to identify sector or investment priorities) and toward public expenditure reviews (PERs), which include recurrent expenditures. The shift to PERs has increased attention to the cost and financing of education, which is overwhelmingly financed from the public sector's recurrent budget.

According to Schwartz and Stevenson:

- Cost and financing analysis (and format) in PERs should be more standardized so conclusions needn't be based on ad hoc international comparisons, and so the conclusions are more credible. Reports should focus more on the sustainability of proposed, as well as achieved, reforms, and on the political and institutional (as well as economic) impediments to sustainability. Few reports acknowledge that more efficient educational processes usually require investments in quality improvements, the added costs for which initially outweigh the resulting savings. And it should be made clear whether savings from efficiency measures are to remain within the subsector or be reallocated elsewhere.
- PERs should include all sources of financing — public and private, local and central government — in the assessment of the adequacy of sector funding.
- PERs should address the imbalance between (1) recurrent and capital spending and (2) personnel and nonpersonnel spending.
- PERs should follow up sectoral diagnosis with concrete policy options, focusing not only on intrasectoral but also on intersectoral reallocation of resources. Many PERs — particularly for resource-rich countries that spend a lot on education — fail to provide concrete options, perhaps feeling less need than resource-poor countries to improve the efficiency and equity of resource use.
- PERs are no substitute for country and economic sector work. If data are inadequate, more sector work is needed for PERs to link macroeconomic and sectoral issues. Single-sector or possibly social sector PERs are more appropriate for in-depth analysis of cost and financing issues.
- Extensive detail is no substitute for focused analysis of education issues and priorities in relation to the country's overall development program.
- PERs should be attentive to the different time frames needed to attain macroeconomic and educational goals; the often substantial education funds outside the control of the Ministry of Education; the imbalance between, and low ratio of, capital to recurrent education spending; the low ratio of nonwage to wage expenditures in the sector's recurrent budget; and the large, capital-intensive foreign financing component of sector funding in many (especially low-income) countries, often fragmented among donors and projects.

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to understand the education sector in the broader context of Bank operations, particularly adjustment programs, which form the background for public expenditure reviews (PERs) in two-thirds of the countries reviewed. It is the first step in a research agenda that includes analysis of how adjustment-related operations affect the education sector, how the education sector should be treated in PERs in the context of adjustment, and how cost and financing issues should be treated in the context of the macroeconomy. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cynthia Cristobal, room S6-035, extension 33640 (81 pages with figures and tables).

511. The Macroeconomic Underpinnings of Adjustment Lending

Fred Jaspersen and Karim Shariff

Macroeconomic policy and sequencing issues increasingly have been addressed explicitly in the design of recent adjustment loans, but there still is scope for: (1) strengthening the analytical framework and macroeconomic policy conditionality in adjustment loans, and (2) greater realism about the time and external resources needed to achieve adjustment and growth objectives.

Drawing on conditionality and implementation information for 184 World Bank adjustment loans to 62 countries during the 1980s, Jaspersen and Shariff examine the macroeconomic underpinnings of Bank-supported adjustment programs. They conclude that macroeconomic policy reform and improved macroeconomic performance are critical to successful implementation and sustainability of structural reform.

Reducing macroeconomic imbalances is especially important for trade reform. If inflation is not reduced to a manageable level, there is a danger that the exchange rate will be used as a nominal anchor for domestic prices. If sustained over a long period, this may precipitate a balance of payments crisis and make it impossible to liberalize trade.

Reducing macroeconomic imbalances also has an important bearing on implementation of sectoral reforms. To the extent that the government cannot reduce its fiscal deficit by increasing its own savings, there is a greater likelihood that it will cut investment in infrastructure to support sectoral restructuring. Prolonged high real rates of interest that result from unsuccessful stabilization efforts can hurt private investment and the restructuring of sectoral production. If fiscal imbalances have not been eliminated before liberalizing the financial system, it is likely that the government will continue to rely on administrative controls to finance the public sector deficit, undermining financial sector reform.

Analysis of the Bank's adjustment loans indicates that macroeconomic conditionality has been relatively important — and has increased over time. Fiscal policy, including public expenditure reform, has been an important focus of the Bank's adjustment lending. Relatively less emphasis has been given to monetary and exchange rate policies which have been a central focus of IMF programs. Implementation of supply-side sectoral policies has been strongly affected by macroeconomic performance. Where macro balance has not been reestablished, implementation rates have been lower for all conditions. Where progress in eliminating imbalance is taking place, reform inertia has strengthened even after loan disbursement has been completed.

Loan design has also been an important determinant of implementation and sustainability of reform. Where issues of sequencing have been built into the design of adjustment programs, the implementation of sectoral reform has been stronger. Adjustment loan conditions which are precisely defined and legally binding for tranche release have had the highest rates of implementation. For adjustment loans with a large number of conditions, implementation has been highest for the "core" conditions that have been the most critical for success of the program.

After looking at recent experience with macroeconomic conditionality, the authors conclude that macroeconomic policy and sequencing issues increasingly have been addressed explicitly in the design of recent adjustment loans, but there still is scope for: (1) strengthening the analytical framework and macroeconomic policy conditionality in adjustment loans, and (2) greater realism about the time and external resources needed to achieve adjustment and growth objectives.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. It was prepared as part of a larger effort in PRE to assess the World Bank's experience with adjustment lending and was a background paper for the Bank's Report on *Adjustment Lending II: Policies for the Recovery of Growth,* submitted to the Bank's Board on March 6, 1990. The paper deals with the theoretical macroeconomic underpinning of adjustment programs and presents the results of empirical work on the design and implementation of Bank-supported adjustment loans. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Aludia Oropesa, room N11-019, extension 39075 (41 pages with tables).

512. Social Security Reform: The Capital Accumulation and Intergenerational Distribution Effect

Patricio Arrau

Substituting the pay-as-you-go social security system by a fully funded individual-accounts system may generate long-run capital accumulation, but often at the cost of income redistribution away from the elderly. Different deficit-financing schemes are studied having this issue in mind.

Using the Auerbach-Kotlikoff model, Arrau studies a switch from an unfunded, defined-benefit (pay-as-you-go) social security system to a fully funded individual-accounts system.

Important questions arise about the transition period. Contributions to the old system by currently active workers disappear as pensions, so the government must assign a value to those past contributions and finance their deposit into the new accounts.

It must also finance the transitional social security deficit from the old system. That deficit arises because the government must pay pensions to current retirees without collecting the social security tax that now goes to individual savings accounts.

Arrau quantifies the impact of social security reform on capital accumulation and intergenerational distribution using a model calibrated for Mexico. There seems to be confusion about the effect of the reform on capital accumulation and a complete neglect of the effect on intergenerational distribution.

Arrau also explores the implications of tax incentives for pension funds. He studies the effects of two alternatives: (1) if the social security contribution is deductible from income tax and pensions are taxable, and (2) if contributions are not deductible and pensions are exempt.

Option 1 provides a higher taxable base than option 2 and a flatter path of income tax during the period of transition — which is important if one wants to prevent substitution of future consumption by present consumption. Option 2 provides revenue earlier than option 1. The simulations, however, seem to favor option 1.

This paper — a product of the Country Operations Division, Country Depart-

ment II, Latin America and the Caribbean Regional Office — analyzes important policy issues using new approaches. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 31047 (53 pages with figures and tables).

513. The Business Cycle Associated with Exchange-Rate-Based Stabilization

Miguel A. Kiguel and Nissan Liviatan

Disinflation programs in chronic inflation countries do not normally follow the usual Phillips curve tradeoff in the medium run. Instead of having a sharp recession in the early stage of stabilization, there often is an initial expansion of output followed by a recession and balance of payments difficulties. This pattern is related to programs that use the exchange rate as an instrument of disinflation.

Kiguel and Liviatan studied the effects of disinflation on economic activity in "chronic inflation" countries based on a sample that includes major Latin American countries and Israel.

Their purpose was to document the main features of the business-cycle phenomenon in countries following an exchange-rate-based stabilization program, to understand its causes, and to analyze their policy implications for future stabilization of this type.

Their main finding was that stabilization processes in chronic inflation countries — most of which use the exchange rate as the main nominal anchor — do not normally follow the usual Phillips curve tradeoff in the medium run.

Exchange-rate-based stabilization programs in these countries are often associated with a business cycle that begins with a boom and ends with recession. (Stabilization programs that use the money-supply anchor tend to follow the usual Phillips curve relationship.) These programs are associated with real appreciation, an increase in real wages, and a tendency to generate a balance of payment crisis. Most of these features appear not only in failed stabilization processes but also in those which turned out to be eventually successful, as in Chile or Israel.

The authors relate the foregoing phenomena to recent theoretical modeling of stabilization which are perceived, rightly or wrongly, as temporary. This brings in the issue of credibility in the stabilization process. The paper concludes with a discussion of the pros and cons of the exchange-rate-based stabilization and of the desirability of switching nominal anchors in the course of stabilization.

This paper — a product of the Macroeconomic and Growth Division, Country Economics Department — is part of a larger effort in PRE to examine stabilization policies. It was funded by the research project "Stopping High Inflation" (RPO 674-24). Please contact Emily Khine, room N11-061, extension 39361 (54 pages, including figures and tables).

514. Restrictive Labor Practices in Seaports

Alan S. Harding

Restrictive practices may prevent developing country seaports from benefiting from investments in containerization and bulk handling. Port loan appraisals should assess the changes needed in labor arrangements and organization — and estimate compensation payments needed for displaced workers.

Containerization and modern bulk handling methods can substantially increase ship and labor productivity. Early debate about whether these methods are appropriate for developing countries has largely ended. At least on routes for which one or more partners is a developed country, costs are minimized by modern, productive ships and appropriate port technology.

But, Harding argues, many ports have failed to change their labor practices and to accept the inevitable reduction in their labor force that technological advances call for. Those ports are doubly penalized: by incurring investment costs and continuing to pay labor as if earlier labor-intensive methods still applied.

Harding analyzes productivity-limiting or high-cost practices known generically as "restrictive practices," especially the following: limits on entry to work in the port, an exclusive definition of dock work, job demarcation to prevent interchanging labor, work-sharing requirements within groups that prevent specialization, work-extending practices, restrictive work hours, and restrictions on output.

Harding analyzes how restrictive practices increase shipping costs — by increasing ship turnaround time and direct labor costs and by reducing labor productivity. He also analyzes how employment would be affected if these practices were abolished — or what these practices are worth in terms of compensation payments to displaced workers.

He gives examples of three approaches to abolishing restrictive practices — gradual, reformist, and drastic. He emphasizes that major changes in restrictive practices are normally associated with changes in a port's cargo-handling organization — by privatization or concession, for example.

The Bank, concludes Harding, must enter the difficult area of labor organization if Bank-funded investments and trade-related projects are to succeed. At appraisal, the Bank should analyze the extent to which changes in labor arrangements may be needed to realize project benefits, and should examine labor organization, collective agreements and other labor arrangements, legal implications, and the investment's impact on the work force.

The cost of compensation payments should be included in the economic and financial evaluation of a project. Efforts involving labor must be seen in the context of a move toward greater private sector participation in port operations. And where privatization is an issue, it is essential to analyze what associated changes in labor organization are implied and what opportunities these might offer to improve working practices.

This paper — a product of the Transport Division, Infrastructure and Urban Development Department in conjunction with the Infrastructure and Energy Division, Technical Department, Latin America and the Caribbean Regional Office — is part of a Bank-sponsored research project, "Labor Redundancy in the Transportation Sector." Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Ann Joseph, room S10-029, extension 33743 (42 pages).

515. Stock Markets in Developing Countries: Key Issues and A Research Agenda

Mansoor Dailami and Michael Atkin

With foreign capital funds dwindling, governments in many developing countries — with increased Bank support — are looking to develop capital markets to provide risk capital for the corporate sector. But first, some basic issues must be empirically explored.

The International Finance Corporation (IFC) is heavily involved in developing capital markets in developing countries – – through technical assistance, through direct investments (equity and loans) in financial market institutions, and through its activities (with the Emerging Markets Database and various country funds) to stimulate portfolio investment in stock markets in developing countries.

The Bank's increased concern with capital market issues is recent. This concern reflects growing dissatisfaction with the paradigm of bank-based finance with heavy government intervention — and awareness of the need for a more integrated approach to financial sector development, resource mobilization, and the promotion of investment and economic growth.

Several financial sector loans have included policy recommendations supporting capital market development, a trend that should accelerate as Bank staff gain competence handling the complex issues involved. To the extent that problems in the banking sector originate in unbalanced capital structures at the corporate level and failure to develop equity markets, capital market development clearly is essential to banking reform. The complementarity of the banking sector and securities markets needs exploration.

There is much debate — in both developed and developing countries — about what kinds of financial institutions and markets best serve economic growth. To what extent, one might ask, can the superior performance of Japanese and German economies be attributed to their market-based system (with a focus on short-term gains)? Prominent in current debates about the competitiveness of industrial nations are issues of corporate financial structure and financial market organization.

Drawing on recent experiences in India and Korea, Dailami and Atkin consider key issues that arise in connection with the development of equity markets in developing countries. Under what conditions does it make sense to encourage the development of equity markets? Is a functioning equity market a prerequisite for liberalization of the banking system? Is it useful to think in terms of an optimal debt/equity mix for a developing economy, or for a corporation in a developing economy?

What is the appropriate regulatory regime for a developing country securities market? Without effective regulation, international investors will not have the confidence to commit resources to developing country markets.

Good management skills are scarce in developing countries. How can matters be arranged to make optimal use of those management resources? The stock market's role in effecting changes in corporate governance could be enormously helpful to economic development.

This paper — a joint product of the World Bank's Financial Policy and Systems Division, Country Economics Department and the Economics Department of the International Finance Corporation — is the first in a planned series of research on the performance of capital markets and their role in providing risk capital to the corporate sector in developing countries, funded by the Bank's Research Committee (RPO 675-84). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Maria Raggambi, room N9-041, extension 37657 (49 pages).

516. International Capital Mobility and the Costs of U.S. Import Restraints

Jaime de Melo and David Roland-Holst

Model estimates indicate the practical importance of capital mobility — and terms-of-trade and rental adjustments — in determining the ultimate welfare effects of import restraints.

De Melo and Roland-Holst evaluate the general-equilibrium welfare effects of tariffs, quotas, and voluntary export restraints under different assumptions about international capital mobility.

They show analytically that when the induced effects of terms of trade and rental rates are considered, the qualitative influence of capital mobility on the costs of protection cannot be ascertained unambiguously. (Thus the importance of answering this question empirically.)

They use a computable general equilibrium model of the United States to estimate these effects empirically. These estimates indicate the practical importance of capital mobility — and of terms-of-trade and rental adjustments — in determining the ultimate welfare effects of import restraints.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the effects of trade policy on industrial efficiency. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila Fallon, room N10-017, extension 37947 (24 pages).

517. Do Wage Distortions Justify Protection in the U.S. Auto and Steel Industries?

Jaime de Melo and David Tarr

No. Wage premiums in those industries may even exacerbate the welfare costs of protection.

De Melo and Tarr examine the welfare effects of protection in two high-wage sectors — autos and steel — to determine if protection is justified to correct for the misallocation of labor necessitated by wage distortions.

If wage premiums are exogenous, under most product market structures labor misallocation is too small to justify protection.

But de Melo and Tarr argue that because of union influence, the wage premium is endogenous in the auto and steel industry — so wage premiums may even exacerbate the welfare costs of protection.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger PRE research effort to understand the effects of trade policy on industrial efficiency. Copies of the paper (or of an appendix describing the model) are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila

Fallon, room N10-017, extension 37947 (32 pages).

518. Industrial Organization and Trade Liberalization: Evidence from Korea

Jaime de Melo and David Roland-Holst

The welfare gains Korea would realize from abolishing the tariffs and equivalent import restraints prevailing in 1982 are likely to be substantial.

Drawing on evidence about industrial organization and market structure, de Melo and Roland-Holst develop a computable general equilibrium model in selected industrial sectors with increasing returns to scale.

They use this model to estimate the welfare gains Korea would realize from abolishing the import restraints (tariffs and equivalent measures) prevailing in 1982.

Under constant returns to scale, they estimate welfare gains to be 1 percent of GDP.

With increasing returns to scale in three industrial sectors, they estimate welfare gains ranging from -0.5 percent to 10 percent of 1982 GDP, depending on assumptions about the pricing behavior (markup pricing or Cournot competition) and profit levels that existed under protection.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the effect of trade policy on industrial efficiency. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila Fallon, room N10-017, extension 37947 (31 pages with figures and tables).

519. Taxes, Outward Orientation, and Growth Performance in Korea

Irene Trela and John Whalley

Tax policies have contributed relatively little to Korea's extraordinary growth: less than 10 percent of Korean growth between 1962 and 1982, and about 3 percent of export growth. Indirect tax exemptions (rebates of sales and excise taxes on exports) have contributed far more to growth than have direct measures (mainly corporate tax rebates for exporters).

Trela and Whalley use an applied general equilibrium model to investigate the contribution of outward-oriented policies to the earlier years of Korean growth.

They conclude: One should look beyond tax policy for the main factors underlying strong Korean growth. Tax policy accounts for 6.2 to 7.9 percent of Korean growth between 1962 and 1982, and only 6.7 percent between 1962 and 1972. Tax policy in Korea has accommodated high growth in Korea rather than driven it.

Indirect tax exemptions (rebates of sales and excise taxes on exports) have contributed far more to Korea's growth than have direct measures (mainly corporate tax rebates for exporters). But nontax measures (tariff rebates, interest preferences, direct cash subsidies, and export premia) have played an even greater part in Korea's development process.

High savings rates (almost 38 percent of GDP in 1988) and high investment rates have been central to Korean growth performance. So have significant transfers of labor from rural to urban sectors, especially in the early phases of growth. Export promotion policies, which stimulate manufacturing, moved labor from the low-efficiency rural sector to the high-efficiency urban sector.

During the period of Korea's extraordinary growth since the early 1960s, tax policy has been used to promote changing economic objectives in different ways.

In the outward-oriented phase of economic expansion (1961-72), rebates of direct and indirect taxes on exports were used to encourage growth.

In the second phase, when Korea was promoting the growth of heavy industry (steel and chemicals), investment tax credits, tax holidays, and other tax incentives were used to facilitate sector-specific capital accumulation.

In the most recent trade liberalization and structural adjustment phase (1980-89), the revenue-raising potential of the value-added tax has played an important part in the move toward policy neutrality.

Mean growth rates have remained high in each phase, and have seemed to be resilient in the face of frequent policy changes. In 1989, however, the growth rate fell sharply, export growth was negative, and there was talk of a new "economic crisis."

Despite these changes in tax policy, Korean growth has consistently achieved high levels since the early 1960s.

This paper — a product of the Public Economics Division, Country Economics Department — is one of a series commissioned by the Division's Tax Incentives Evaluation Project. An earlier draft of this paper was presented at a World Bank conference on Tax Policy in Developing Countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (51 pages with tables).

520. Trade Reform, Policy Uncertainty, and the Current Account

Sweder van Wijnbergen

Permanent changes in trade policy do not affect intertemporal prices and should thus leave private savings unaffected. But if trade reform will not be reversed and the government cannot credibly communicate that intent, consumers trade on the wrong assumption — so private savings are lower than they should be. This justifies policy intervention to increase private savings.

Rapid trade liberalization is often followed by a surge of imports and a deterioration in the current account. The macroeconomic counterpart of this is a decline in private savings.

The expectation that tariffs will be reimposed lowers the expected consumption rate of interest (makes current goods cheaper in terms of future goods). So anticipation of a future tariff increase will increase current consumption if the intertemporal substitution elasticity is higher than 1. If consumers internalize the impact of future tariff revenues on their after-tax income, the effect on savings will *always* be negative — even for an intertemporal substitution elasticity below 1.

What is the impact of policy uncertainty on private savings? To deal separately with the impact of shifts in intertemporal prices and with risk aversion, van Wijnbergen uses the Ordinal Certainty Equivalence approach. He es-

tablishes that trade policy uncertainty by itself will further reduce savings if (1) there is positive risk aversion and (b) the intertemporal substitution elasticity exceeds 1.

This result is interesting for two reasons. First, it shows how policy uncertainty about tariffs reinforces the negative effect on savings of an expected policy reversal exactly when intertemporal substitution elasticity is high. So the two effects go in the same direction exactly when they matter most.

Second and more academic, in the standard expected utility approach, risk aversion is low when intertemporal substitution is high, because the relevant elasticities are each other's inverse — so whenever the uncertainty effect is important, the direct anticipation effect is not, and vice versa. This result is reversed in the non-expected utility approach, as van Wijnbergen found out: the two effects are complementary where the direct anticipation is important.

These results have important policy implications. If trade reform will not be reversed but the government cannot credibly communicate that to the private sector, consumers effectively trade on the wrong intertemporal prices. So, private savings are lower than they should be. This justifies policy intervention to increase private savings, preferably through a temporary increase in consumption taxes. If this is not feasible, the second best is a temporary tariff — the equivalent to gradual rather than "cold turkey" liberalization.

The case for such intervention is strengthened by the possibility that the private savings response could create such a large current account deficit that the trade reform itself would indeed get reversed — in a self-fulfilling prophecy.

This paper is a product of the Country Operations 1 Division, Country Department II, Latin America and the Caribbean Regional Office. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Margaret Stroude, room I8-159, extension 38831 (10 pages).

521. World Bank Treatment of the Social Impact of Adjustment Programs

Helena Ribe and Soniya Carvalho

Given existing knowledge and data, a better treatment of the social impact of Bank-supported adjustment programs can be achieved. Even a modest analysis of alternative policy choices can help improve program design and foster more equitable growth. Groups that may be adversely affected can be protected with targeted projects.

Since 1987 the Bank's operational guidelines have required President's Reports supporting structural adjustment loans (SALs) to pay particular attention to an analysis of the short-term impact of the adjustment program on the poor and to measures proposed to alleviate negative effects. Ribe and Carvalho review how SAL President's Reports prepared between July 1986 and December 1988 have addressed the social impact issue.

They find that most efforts to address the social impact of adjustment programs have focused on targeted projects, including special employment programs, nutrition projects, resettlement projects, and credit, severance pay, and retraining projects for displaced workers. A great deal of experience has been gained in designing and implementing targeted projects and this can help to improve their future effectiveness. By contrast, there has been little analysis of the impact of the chosen policy mix on major sub-groups in poverty. Design modifications other than reallocations of social expenditures, have received relatively less attention. For example, the composition, incidence, and effectiveness of public expenditures and their implications for reducing poverty have not generally been examined. In more recent Bank-supported adjustment programs, however, more attention is being paid to the social impact of policy decisions.

In preparing for adjustment operations, Bank staff should explore policy choices that eliminate economic distortions in a way that creates a basis for a more equitable pattern of long-term growth. To the extent that some adjustment measures may hurt the poor in the short term, this should be mitigated through both appropriate modifications in SAL design and carefully designed targeted projects. Longer-term investments in the economic and social sectors can be addressed in sector and project lending.

Given existing knowledge and data, a better treatment of social impact can be achieved, in most cases, at little additional cost and without sophisticated databases. The design and implementation of future targeted projects can be improved on the basis of the experience gained so far.

This paper — a product of the Review and Analysis Division, Policy and Review Department — is part of a larger effort in PRE to help improve the treatment of social impact issues in adjustment programs supported by the Bank. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Marilou Abiera, room S13-033, extension 31262 (58 pages with annexes).

522. A Survey of the Costs of World Sugar Policies

Brent Borrell and Ronald C. Duncan

Lifting government controls on sugar prices and production would probably increase world sugar prices. World prices would definitely be less volatile, and the end of intervention would certainly improve world welfare, especially in the sugar-exporting developing countries.

The world sugar market has long been characterized by volatile prices and widespread intervention.

Controls on domestic prices, demand, and supply have created an inefficient pattern of world production, consumption, and trade. Without government controls, production would shift from the subsidized, higher-cost countries (especially Japan, the European Community, and the United States) to the lower-cost countries (such as Australia, Brazil, and Thailand).

The resources saved could be directed to other activities, and with lower sugar prices, consumers would have more money to spend on other goods and services.

Borrell and Duncan describe how government support of sugar producers exacerbates the volatility of sugar prices. Government-controlled increases in production have come only after price peaks (as in 1963, 1974, and 1980). The result-

ing surges in production far exceeded steady growth in consumption.

Production increases greatly when world prices are high but does not contract greatly when they are low. When world prices fall because of a surge in production, protective policies are activated to support the expanded industries, causing world prices to remain depressed for several years.

Because so many domestic markets are insulated, the burden of adjustment is borne by the relatively small unprotected exporting countries (such as Thailand). Moreover, to induce needed adjustments in supply and demand, the world price must vary more than is otherwise necessary.

Borrell and Duncan survey estimates of the economic costs of various forms of government assistance to sugar industries.

The impact of policies in the high-cost countries (Japan, the EC, and the United States) is to reduce world sugar prices in the long run (perhaps by more than 30%), to increase price variability by as much as 28%, and to increase the probability of very low prices. The impact of production controls in Australia and Brazil is to increase world prices and the instability of world prices.

What would happen if all interventions ceased? It cannot be concluded unambiguously that average world sugar prices would increase, but they probably would. World prices would definitely vary less, and world welfare would definitely improve, especially in developing countries that depend heavily on sugar exports.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to understand the implications for developing countries of changes in the industrial countries' trade policies. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Audrey Kitson-Walters, room S7-053, extension 33712 (26 pages).

523. EC Bananarama 1992

Brent Borrell and Maw-Cheng Yang

The EC countries' banana import policies are costly mechanisms for aiding preferential supplier countries. European economic integration in 1992 provides an opportunity to reform those policies and find more efficient mechanisms for providing aid.

Banana import and pricing policies vary widely among the members of the European Community. The EC Commission intends to replace national markets with a single market in 1992. At that time a uniform policy toward banana imports must be adopted.

Special import and pricing arrangements presently confer large subsidies to specific African, Caribbean, and EC territorial dependencies — to the disadvantage of other exporting (mainly Latin American) countries. A "common" banana regime and single EC market could substantially alter world trade in bananas and the welfare of banana-exporting regions.

Borrell and Yang have simulated policy options open to the EC in forming a single banana market, to illustrate the implications of change for trade and welfare. They found that:

- EC adoption of free trade in bananas would lead to a 9% increase in EC imports, a decline of 46 percent in exports by favored countries (equal to an annual welfare loss of US$209 million), a 12 percent increase in banana exports by nonfavored exporters (equal to an annual welfare increase of $60 million), and an annual increase in EC welfare of $386 million (in 1987 prices).
- Current policies (compared to free trade) cost EC consumers about $1.85 and nonfavored countries $0.29 for every dollar of "aid" received by preferential suppliers. The inefficiencies involved in this transfer cost the world economy an estimated $0.92 for each dollar of aid.
- Imposing a tariff of 16.7 percent on (the landed CIF value of) all EC banana imports to finance a deficiency payment scheme aimed at maintaining aid to preferential suppliers after 1992 would make aid more efficient. Every dollar of aid would cost EC consumers an estimated $1.27, nonfavored countries $0.24, and the world economy $0.34.
- But direct payment of aid would be the most efficient method for delivering aid. A tariff of 16.1 percent on all imports would cover the current level of aid transfer. Every dollar of aid received by preferential supplying countries would cost EC consumers an estimated $1.01, nonfavored exporters $0.03, and the world economy $0.02.

And the aid-receiving countries would get a larger net benefit because they would not incur the costs of producing bananas above the free trade level to qualify for aid, as is presently the case. Those resources could be used in other enterprises, and the direct aid payments could be efficiently targeted (to modernize the banana industries or perhaps to diversify these economies) — rather than lock resources into inefficient economic sectors, as presently happens.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to understand the implications for developing countries of changes in the industrial countries' trade policies. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sarah Lipscomb, room S7-062, extension 33718 (31 pages).

524. The Kuwaiti NGOs: Their Role in Aid Flows to Developing Countries

Nural Abdulhadi

A substantial amount of Kuwaiti private aid flows to developing countries — an example of South-to-South aid. More contact and collaboration between Kuwaiti NGOs and other NGOs, donors, and international organizations might be mutually beneficial.

Abdulhadi reports that the Kuwaiti nongovernmental organizations (NGOs) are more active than is widely known.

Kuwaiti NGOs provide substantial amounts of private aid to developing countries — an estimated $70 million to $90 million in 1987-88. This compares favorably with Kuwait's official development assistance of $316 million in 1987 (down from about $1 billion in the first half of the 1980s).

Much of this external aid goes to Africa, the Middle East, and Southeast Asia — particularly to poorer segments of the population in rural areas. Kuwaiti NGOs provided aid, for example, after the floods in Bangladesh, the wars in Lebanon and Afghanistan, the uprising in the West Bank and Gaza Strip, and the droughts in Africa.

But Kuwaiti NGOs have little contact with other NGOs — international, bilateral, or in developed and developing countries. Most Kuwaiti NGOs would welcome contacts and cooperation with others working in similar areas and sectors.

As "South-to-South" NGOs, Kuwaiti NGOs add significantly to private aid, which is otherwise dominated by NGOs from industrial countries.

Kuwaiti NGOs — especially those working in the field, in close proximity to beneficiaries and local communities and NGOs — could benefit the donor community's discussions with local NGOs about community participation in sustainable, flexible programs.

And more external contacts would help Kuwaiti NGOs improve their institutional development efforts and their effectiveness in rural areas.

Most Kuwaiti NGOs support programs both inside and outside of Kuwait. Only three Kuwaiti NGOs are totally outward oriented. A list of NGOs provided by Kuwait's Ministry of Social Affairs and Labor suggests that much of Kuwaiti private aid supports development efforts in developing countries. This trend is expected to persist even if there is a shift toward support of lower-income groups in Kuwait.

This paper — a product of the Policy and Review Department — is part of a larger effort in PRE to understand and promote the contributions of nongovernmental organizations to development. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rosetta Grimm, room S12-018, extension 31129 (17 pages).

525. School Effects on Achievement in Secondary Mathematics and Portuguese in Brazil

Marlaine E. Lockheed and Barbara Bruns

Students in Brazil's federal technical schools outperformed students in other schools in both mathematics and Portuguese. Important factors were class size (achievement was higher in larger classes), the number of hours math was taught (the more the better), the school's organizational complexity, average family social class background, and the number of hours students spent working.

Lockheed and Bruns use a multilevel modeling procedure to explore (1) the percentage of variance in secondary school achievement in Brazil that could be attributed to the types of school attended, (2) differences between schools in students' achievement in mathematics and Portuguese, and (3) differences between schools in reducing achievement differences based on students' socioeconomic status.

Students in federal technical schools outperformed students in general secondary, SENAI,* and teacher training schools in both mathematics and Portuguese, after holding constant for gender, age, family size, and the number of hours the student spent working. This could reflect differences in students' entry-level performance as admission to federal technical schools in Brazil is highly selective.

For mathematics only, students in private schools outperformed those in public schools.

To explain why students in federal technical and private schools outperformed students in other schools, Lockheed and Bruns explored variations in their organization, quality, and social composition.

Factors significantly related to average mathematics achievement were class size (achievement was higher in larger classes) and the number of hours math was taught (the more time, the higher average achievement), and the school's average student socioeconomic status (family social class background), suggesting that student selection into the schools accounted for much of the observed difference.

Factors significantly related to average achievement in Portuguese were the school's organizational complexity, the average socioeconomic status, and the average number of hours students spent working.

Performance was not different for schools paying higher salaries, day schools, high-fee schools, or schools where teachers attended university. The Kuwaiti NGOs.

*SENAI secondary schools are financed by the federal government but administered by the National Confederation of Industry (a private association of industrial employers).

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to understand differences in educational effectiveness. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cynthia Cristobal, room S6-033, extension 33640 (26 pages).

526. Rural Poverty in India, 1973-86

Nanak Kakwani and Kalinidhi Subbarao

Growth (trickle-down) and poverty alleviation (pull-up) programs are not substitutes for each other, but complements, the Indian data on poverty show.

The effects of economic growth can trickle down — but it rarely happens automatically, conclude Kakwani and Subbarao, after assessing the impact of consumption growth on India's poor and ultrapoor between 1973 and 1986.

Conversely, growth's beneficial effects on the incidence of poverty can, but need not, be offset or even nullified by increased inequality of consumption. In India, in 1973-77, they were.

The policy response — a series of antipoverty (consumption-equalizing) interventions since the mid-1970s, aimed at raising the income and consumption levels of the poor and the ultrapoor — was basically sound.

In 1977-83, average consumption grew slowly but inequality of consumption fell in many states — and poverty and the poverty gap were reduced more than in the earlier period. Why is not clear, but the role of direct interventions cannot be minimized.

Program effectiveness is clearly weaker in the poorer states, however, and needs to be strengthened. Employment programs especially — which substantially increased rural employment and income growth — require more effort in Bihar and West Bengal.

Just as increased inequality hurts the ultrapoor disproportionately, so a decline in inequality benefits the ultrapoor more than the poor. From 1983 to 1987, growth was high and there was almost no

change in inequality between states. The growth effect dominated a substantial decline in poverty.

Between 1973-74 and 1986-87, rural poverty declined substantially. The incidence of poverty declined from 60.6 percent to 41.5 percent and its severity (the gap between the poverty line and an average poor person's income) fell from 18.8 percent to 10.5 percent. Even the absolute number of poor declined by about 37 million. The poverty ratio has become more responsive to (1) growth and (2) changing inequality in consumption, except in Bihar and West Bengal.

Both growth and poverty alleviation efforts contributed to this success, conclude Kakwani and Subbarao. But on the whole investments and performance in health, education, and nutrition are unimpressive. It is their impression that the social policies that can raise the capabilities of the Indian people have generally been relegated to the background in Indian policymaking.

This paper — a product of the Welfare and Human Resources Division, Population and Human Resources Department — is part of a larger effort in PRE to understand better the impact of general and targeted policies on poverty. Preliminary results of this study were reported in the paper "Poverty and Its Alleviation in India," in *Economic and Political Weekly*, 1990. This version was extended to cover 1986-87 and was substantially revised to accommodate the new evidence. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Brenda Rosa, room S9-137, extension 33751 (79 pages).

527. Voluntary Choices in Concerted Deals: Mechanics and Attributes of the Menu Approach

Ishac Diwan and Ken Kletzer

When lenders participate voluntarily in a buyback of debt claims, both the price paid for repurchased claims and the secondary market price of the remaining debt rise — so all creditors realize a net benefit. In contrast, the menu approach to debt reduction allows the debtor to reduce its debt at cheaper prices.

When sovereign debt trades at a discount on secondary markets, a market buyback increases the secondary market price. The wealth of private creditors increases because part of the funds used in the repurchase is a transfer payment to them.

This transfer of resources can be mitigated by imposing a capital gains tax on the remaining debt. Diwan and Kletzer show how this can be achieved by including exit and new-money options in a menu of options from which creditors can freely choose. The menu approach imposes an implicit tax on the capital gains on the remaining debt by requiring lenders that do not exit to extend new loans in proportion to the debt they retain.

It is enough to make the buyback price equal to the earlier predeal price. Any new-money call will do the job. In equilibrium, creditors will provide enough new money to stabilize the post-deal price at a level that leaves them indifferent to the exit option. Increasing the new money call increases the cost of the menu as well as the extent of the debt reduction achieved.

The menu approach Diwan and Kletzer describe does not require that particular choices from the menu be assigned to each lender. Instead, it implements debt reduction through a price system, allowing different creditors to select different portfolios in equilibrium from a common set of options.

With heterogeneous banks, some resources will be transferred when participation in the debt reduction plan is voluntary — and the buyback price will generally need to be higher than the prebuyback price.

Diwan and Kletzer illustrate some of their results by analyzing the recent Mexican debt agreement. They show how to read through the complex financial acrobatics to estimate the net debt reduction. Funds provided by international financial institutions benefited both Mexico and its creditors. Mexico directly retained about 62 percent of these resources and the banks 34 percent.

When creditors are heterogeneous and possess private information about the value of debt reduction to them, a mechanism is needed to elicit that information. Researchers should analyze how a menu can be combined with an auction of new money or exit instruments to elicit that information.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to understand the costs and benefits of various mechanisms of debt settlement in the context of the international debt crisis. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheila King-Watson, room S8-025, extension 31047 (33 pages).

528. Monetary Policy Instruments for Developing Countries

Gerard Caprio, Jr. and Patrick Honohan

Rapidly changing financial markets have led many industrial and some developing countries to change to indirect methods of monetary control. More developing countries can be expected to follow their lead.

In the last few years, many industrial countries have considerably changed their approach to formulating monetary policy. These changes have accompanied — been a response to and a catalyst for — rapid changes in the sophistication and depth of financial markets.

In developing countries, both the evolution of financial markets and growing disenchantment with directed credit programs and bank-by-bank credit ceilings have increased the interest in at least examining and possibly moving to indirect methods of implementing monetary policy.

These developments have implications beyond their direct impact on the effectiveness of macroeconomic stabilization and control of inflation. They can strongly influence the efficiency and long-term development of the financial system and its contribution to economic growth.

Caprio and Honohan provide an overview of the policy issues developing countries face in light of industrial country experience in the last two decades. They discuss the objectives of monetary policy and how these have evolved in recent years, and they describe the different policy instruments that have become available to monetary authorities and how these instruments can be used to cope with the main shocks affecting monetary policy — those related to government

deficit financing and to external flows.

Shifting from direct ways of controlling monetary policy is by no means universally appealing, they conclude. Direct controls are simple to operate and seem to offer a sure handle on overall credit or money growth. Several observers have noted that moving away from direct controls often involves a fundamental reorientation of central bankers and government officials, not only toward directed credit but toward the financing of government debt.

But monetary officials in some countries have found that there is no foolproof way to guarantee the achievement of any overall monetary target. Bank-by-bank credit ceilings suffer the same limitation: eventually nonbanks arise to escape credit limits, and banks have every incentive to evade controls. Moreover, such ceilings limit competition and — by choking off innovation and prompting excessive holdings of liquidity — can curtail growth both in the financial sector and in the rest of the economy.

Not all countries are now in a position to apply the experience already gained by industrial countries immediately in operating indirect methods of monetary control, but more and more monetary authorities can be expected to follow the lead taken especially by several Asian economies.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in PRE to examine the effects of economic regulation on the financial sector. The paper draws on discussions at a May 1990 seminar on monetary policy instruments sponsored by this Division, with the assistance of the International Monetary Fund. A volume of seminar proceedings will be published in 1991. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Wilai Pitayatonakarn, room N9-003, extension 37666 (21 pages).

529. The Sectoral Structure of Poverty During An Adjustment Period: Evidence for Indonesia in the Mid-1980s

Monika Huppi and Martin Ravallion

Favorable initial conditions, a timely adjustment program, and associated gains to the rural sector allowed Indonesia to maintain the momentum of its progress in poverty alleviation during the difficult 1980s.

Huppi and Ravallion examine the structure of poverty in Indonesia by sector of employment — and how it changed during the adjustment period, 1984 to 1987.

They find that, while aggregate poverty decreased during the period, the gains to the poor were quite uneven across regions and sectors. Gains to the rural sector in key regions were quantitatively important to Indonesia's success in alleviating poverty, they found. Most poverty exists — and most gains in alleviating poverty were made — in the rural farming sector. These gains were associated with crop diversification and continued growth in off-farm employment.

The aggregate distribution of consumption changed little around its growing mean, but substantial shifts in distribution occurred within sectors — so there was virtually no correlation between sectoral growth rates and rates of poverty alleviation. This has important implications for applied general equilibrium models of the effects of adjustment on poverty. Two features of the government's adjustment program favored rural areas and were crucial to Indonesia's evident success at maintaining momentum in alleviating poverty:

- Devaluations increased agricultural exports (largely nonfood crops). The poor shared in sizable gains in cash crop incomes.
- The government and others argue that a serious attempt was made to protect fiscal allocations to programs that directly benefited the poor. The real cuts in public spending were on development spending — especially in more capital-intensive industrial and mining projects. Programs that directly benefited the poor — including labor-intensive rural infrastructure projects — were sheltered in an attempt to expand rural employment opportunities during the adjustment.

The adjustment package undoubtedly helped, conclude Huppi and Ravallion, but one should not underrate the favorable conditions in Indonesia when adjustment started. A period of sustained, fairly equitable growth for several years before adjustment created the circumstances in which, by the mid-1980s, the momentum of poverty alleviation could be maintained at lower growth rates.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger PRE research effort: "Policy Analysis and Poverty: Applicable Methods and Case Studies." Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-039, extension 30464 (47 pages, with tables).

530. The Menu Approach to Developing Country External Debt: An Analysis of Commercial Banks' Choice Behavior

Asli Demirgüç-Kunt and Ishac Diwan

Suppose that each creditor bank to a particular debtor country is confronted with a choice: each dollar of country debt held can be either rescheduled or sold at a given price. What choice will they make? Relatively strong banks will take advantage of a debt workout to exit from the debt. Relatively weak banks will relend.

Demirgüç-Kunt and Diwan explore what determines the choice banks will make when confronted with a "menu" of exit instruments and new-money options, as is now typical in debt workouts for developing countries.

In particular, they examine how deposit insurance and rules on capital adequacy affect a commercial bank's exit decision — arguing that these exit decisions are influenced mainly by the structure of the banks' balance sheets and by the regulatory systems within which they operate.

The FDIC insurance subsidy is more valuable to weak institutions, they argue, so a bank's valuation of the debt claims it holds is inversely related to the bank's financial strength. For a given menu, the relatively weak banks choose to relend.

The banks that choose to exit are those that are financially "strong" and have relatively high exposure to the country whose debt is being recontracted. Contrary to common belief, bank size alone does not significantly affect exit behavior.

Demirgüç-Kunt and Diwan test their results using individual banks' choices in the 1988 Brazil rescheduling deal, the first package specifically based on the menu approach to debt workouts. Their empirical results statistically link commercial banks' characteristics to their

portfolio choices — with 83 percent predictability in this sample.

Among the implications for the new debt reduction strategy:

• Larger debt reductions negotiated on a market basis are more costly, per unit of debt reduced. To increase debt reduction, weaker banks must be persuaded to exit, increasing the needed exit price.

• The exit price depends on the strength of the banking industry. So the effectiveness (and cost) of the present debt strategy is affected by changes in the world economy. In boom periods, banks are stronger and exit prices reduced.

• Regulators can affect the cost of debt reduction by altering the regulatory framework within which the banks operate.

• Debt reduction in the developing countries is beneficial to the deposit insurance agencies of the major creditor nations.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to understand bank choices in debt restructurings. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 31047 (35 pages).

531. The World Bank's Role in Shaping Third World Population Policy

Fred T. Sai and Lauren A. Chester

The Bank's comparative advantage in the population field lies in policy development, which it pursues through three main strategies: policy dialogue, sector work, and policy-oriented research.

Since the World Bank became involved in population work in 1969, it has sought to influence Third World population policy by undertaking several types of activity: lending, policy dialogue, economic and sector work, analysis and research, and collaboration with other international agencies.

The Bank's comparative advantage lies in policy development. It uses three main strategies: policy dialogue, sector work, and policy-oriented research.

Policy dialogue occurs with government officials and program managers, mainly through discussions, Bank-sponsored seminars, and project development.

Population sector work, which analyzes the population sector in a particular country, provides a base for operational activities and for initiating policy dialogue with program managers.

Population research in recent years has focused on alternative policy and program strategies.

The Bank's work in policy development has contributed greatly to shifts in government population policy in many countries, and its operational strategies have helped shape population programs in others. Its work program in the coming years will continue to stress policy work.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to disseminate the Bank's population activities to a broad Bank and non-Bank audience. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (23 pages).

532. Privatization in Turkey

Sven B. Kjellström

Turkey's privatization effort has shrunk to being a technique for financing the budget deficit, with loftier targets for greater efficiency pushed into the background.

State capitalism has been a basic tenet of the developing strategy of the Turkish Republic for half a century, with import-substituting industrialization through state economic enterprises (SEEs) as a guiding principle. But by 1980 a serious economic and political crisis called for a reassessment of economic policies. The policy reorientation was radical: from import substitution to export promotion, from interventionism to market forces, and from the promotion of SEEs to the promotion of the private sector.

The state's role in the economy was to be reduced. SEEs were to be streamlined and made more efficient by operating in a more competitive environment under greater cost and price awareness. Greater efficiency would come from either SEE reform or privatization.

Apart from greater price flexibility and the dilution of some monopolies, SEE reform has not made much headway — mainly because the government has been reluctant to adopt and pursue an effective reform program.

Emphasis has instead been put on privatization broadly defined, with the additional objectives of developing the domestic capital markets and generating revenue for the treasury. The initial operations were in the form of sales of revenue-sharing bonds and minority share sales. The first attempt at stock sales flopped, because it took place in a falling market. The approach was then quietly switched to block sales without thorough preparation of the legal ground. The sales went to foreigners, the highest bidders, but this generated much controversy among unions, opposition parties, and industrialists.

Privatization became a contentious political issue that the opposition parties exploited, often in a populist manner. They got the block sales canceled by court orders — on the grounds that the switch to foreign sales was illegal.

The government had not prepared the legal, institutional, and political base for privatization. It had no clear strategy and concrete program for privatization and its assumption that privatization could be treated as an administrative matter was proven wrong. Much was said, little done. Excessive claims, without due safeguards, generated a malaise among groups that privatization could adversely affect.

The cancellation of block sales coincided with a boom on the stock market. Moreover, the treasury came under pressure to generate revenue to contain a growing budget deficit. The sales strategy thus switched back to stock market sales of minority shares. The share sales program has so far been a success, and the proceeds could finance a large part of the 1990 budget deficit. At least for the moment, privatization has thus shrunk to a budget-deficit financing technique, with the loftier targets of enhanced efficiency pushed into the background.

This paper — a product of the Resident Mission in Turkey, Country Department I, Europe, Middle East, and North Africa Regional Office — is part of the Bank's effort to evaluate the experience with privatization. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please con-

tact Thouria Nana-Sinkan, room H4-091, extension 36026 (73 pages, with graphs and tables).

533. Government Revenue from Financial Repression

Alberto Giovannini and Martha de Melo

In theory, governments should not resort to financial repression when they face no constraints on taxation. In fact, countries obtain substantial implicit revenue from financial repression.

Giovannini and de Melo explore the theoretical underpinnings and empirical relevance to public finance of financial repression — of controls on international capital flows and on domestic financial intermediaries. They conclude:

- In principle, countries should not resort to financial repression when they face no constraints on taxation, but such constraints as administrative cost and income distribution objectives might justify an implicit tax on domestic financial markets.
- The revenue from financial repression, measured as the difference between the foreign and domestic costs of government borrowing, can be substantial. The unweighted cross-country average is about 2 percent of GDP and 9 percent of total government revenue (excluding the revenue from financial repression), but varies significantly among countries.
- Reform aimed at liberalizing financial markets — removing international capital controls and price and quantity rationing in domestic financial intermediation — should first estimate what amount of government revenue comes from financial repression and provide for the revenue shortfall that will result from financial liberalization.
- In general, countries with higher rates of inflation, and therefore higher rates of currency depreciation, tend to raise more revenue from financial repression — because the relative costs of foreign and domestic borrowing are influenced by the domestic currency's rate of depreciation, since domestic nominal interest rates are normally fixed administratively.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to explore in more detail the links between fiscal policy and macroeconomic development. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (46 pages, with figures and tables).

534. Risk Facing U.S. Commercial Banks

Menahem Prywes

Heavy exposure to risk in bank loan portfolios, together with the introduction of higher capital requirements, suggests a slowdown in the growth of credit. That means weaker U.S. investment and consumption may be expected as well as less credit to the highly indebted countries.

Prywes examines the financial condition of the U.S. commercial banks and of the main private borrowing sectors — households and corporate nonfinancial businesses.

He finds that the bank's loan portfolios expose them to the risk of high losses. That risk — together with the forthcoming increase in the required ratio of capital to assets — gives banks the incentive to build capital, which they may do by slowing down the growth of credit.

One consequence would be weaker U.S. investment and consumption.

Moreover, credit would probably be directed away from higher risk borrowers such as the highly indebted countries. Such lending is unlikely to recover rapidly — except at exorbitant rates. If this cycle follows its historic pattern, there will be an upswing in the growth of bank lending in the longer term, providing new opportunities for creditworthy developing countries.

Financial problems are likely outside the United States, partly because of links between real interest rates and the covariance of equity prices. This suggests protracted high *global* rates and limited private credit flows for development. This conclusion needs to be sharpened by comparative research on the industrial countries.

This paper — a product of the International Economic Analysis and Prospects Division, International Economics Department — is part of a larger effort in PRE to identify trends which underlie the international economic outlook. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Joseph Israel, room S7-218, extension 31285 (26 pages).

535. Shared Investment in General Training: The Role of Information

Eliakim Katz and Adrian Ziderman

Making it difficult for a (recruiting) firm to know how much a worker has been trained increases a (training) firm's incentive to offer workers general training. Both minimum wage legislation and training certification discourage on-the-job-training.

Katz and Ziderman take issue with the prediction — now standard — that firms will be unwilling to finance training in transferable skills, given the absence of property rights over these investments and the possibility of workers being recruited by nontraining firms. Gary Becker has argued that for such training to take place, workers must themselves bear the burden of financing: without freely working capital markets, market failure results in too little training being demanded and provided.

Extending an approach presented in PRE Working Paper 170, Katz and Ziderman argue that potential recruiting firms possess only limited information about the type and level of general training that workers will have received in other firms. The informational asymmetry between a training and a recruiting firm reduces the net benefits a worker can obtain by moving to another (recruiting) firm — which increases the (training) firm's incentive to finance general training.

The cost to the recruiting firm of discovering a trained worker's potential productivity is high. Katz and Ziderman discuss the role of the options value of general training in raising information asymmetry. They show Becker's training model to be a special case of zero asymmetrical information — rather than a general model of training finance.

This finding has important policy implications. Asymmetrical information counters the deleterious effects on general training of such market imperfections as minimum wage legislation (which makes it difficult for a training firm to

recover training costs) and a restricted capital market.

Katz and Ziderman suggest that training certification — by facilitating interfirm mobility — discourages on-the-job training. Certification, by awarding workers property rights over their general training, limits company-financed training and places a heavier financing burden on workers. Certification makes the workers' training visible — but decreases asymmetric information between firms.

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to develop policies to improve private and public skills training in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Valerie Charles, room S6-049, extension 33651 (28 pages).

536. The Link Between Poverty and Malnutrition: A Household Theoretic Approach

Maurice Schiff and Alberto Valdés

Past studies have identified nutrition exclusively with nutrient intake. A better definition of nutrition (as the one used here) would critically affect the link between poverty and malnutrition and would affect the implications for policies designed to improve the nutritional status of the poor.

A household's nutrition level or status depends only partly on its nutrient intake (calories, protein, vitamins, and the like). It is also a function of:

- Non-nutrient food attributes that affect nutrition, such as the freshness, cleanliness, and storability of foods purchased.
- Privately provided inputs such as the time and care taken to prepare food to ensure that it is not contaminated or spoiled.
- Publicly provided inputs, such as potable water, sewerage, electricity, nutritional information, and the like.

No matter how closely related, food adequacy (measured by nutrient intake) and nutrition level are not the same thing. The problem of food adequacy may or may not reveal itself as a nutrition problem; and a nutrition problem may or may not be the result of an inadequate supply of food.

The fact that nutrient intake does not increase with income is not itself a cause of concern, though it is viewed that way by some who identify nutrition exclusively with nutrient intake. Such a view overlooks the fact that households have the *choice* of spending increments in food expenditures on nutrients but prefer to spend it on other food attributes. It also ignores the fact that these other food (and nonfood) attributes may also contribute to nutritional status (for example, food freshness and cleanliness, refrigeration, and so on).

In urban areas, nutritional and health status can probably best be raised through the provision of publicly provided inputs (sewerage, potable water, and so on).

In rural areas, nutritional and health status depend largely on household inputs — which depend on income. So raising the rural household's income can raise its nutritional and health status.

One of the best ways to raise farm income is to reduce taxes on agricultural production; another is to increase public spending on factors that raise land and labor productivity in rural areas. Schiff and Valdés argue that agricultural export-led growth has real potential for creating jobs, reducing poverty, and thereby contributing to improvements in the nutritional status of the poor.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to study the impact of agricultural pricing and trade policies, and is a by-product of the Comparative Study of the Political Economy of Agricultural Pricing Policies in Developing Countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheila Fallon, room N10-025, extension 37947 (15 pages).

537. Commodity Exports and Real Income in Africa

Arvind Panagariya and Maurice Schiff

In providing policy advice and support of investment projects for commodities such as cocoa, the donor community should take into account the effects on, and possible reactions of, the other countries producing that commodity.

It has often been argued that if several developing countries expand exports, they are likely to experience a decline in their terms of trade, export revenues, and real incomes. The general case for this export pessimism has lost much of its force, but remains very much alive for some specific countries and commodities — particularly the export from Africa of cocoa, coffee, and tea, which exhibit low price elasticity.

Panagariya and Schiff systematically analyze this issue for cocoa, a commodity for which many African countries have a large share in world exports. Their concern is chiefly with the problems that arise from low price elasticity of demand in the world market and their implications for trade policy.

They find that increasing productivity in one African country through new investments would benefit that country — but the other African countries would lose. On the whole the African countries would gain, however, so the gains to the country with expanded output would dominate the losses for the other countries. The return on the new investments for Africa as a whole would be positive — although significantly lower than returns for the country in which the new investments were made.

Panagariya and Schiff:

- Examine how real incomes and tax and export revenues compare under existing and some alternative (Nash, myopic) taxes.
- Analyze the impact of export expansion (through increased efficiency) on real income, export revenues, and tax revenues, under alternative tax regimes.
- Compare the effects of export expansion by African countries with that by non-African countries.

Their results — highly tentative — are based on calibrated equilibria that use specific functional forms and existing point estimates of various elasticities.

This paper — a product of the Trade and Policy Division, Country Economics Department — is part of a larger PRE effort to examine the question of whether the simultaneous expansion of exports by several developing countries would lead to a decline in their terms of trade, export revenues, and real income. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheila Fallon, room N10-025, extension 38009 (37 pages, with tables).

538. Agricultural Reform in Developing Countries: Reflections for Eastern Europe

Avishay Braverman and J. Luis Guasch

The experience of developing countries is relevant for the countries of Eastern Europe and the USSR, but offers no magic formulas. The scope of change is greater than that attempted in structural adjustment programs, and so are the opportunities for success and failure.

The countries of Eastern Europe may be able to benefit from the lessons learned from structural adjustment in developing countries although the two reform experiences differ in major ways. For one thing, markets were suppressed more in the formerly socialist countries than in the developing countries. Distortions in the agricultural sector were more massive, and the urban bias was less — because large-scale subsidies allowed producer prices and earnings to rise even though labor productivity was low.

Four issues must be addressed to get the prices nearly right:

• A credible correction of the exchange rate must be achieved. The intent of devaluating the exchange rate is to increase the price of tradables relative to nontradables. Devaluation will achieve its original purpose only if there is political commitment — manifested through fiscal discipline — to change the rural-urban distribution of income. If the government offsets devaluation by spending that increases the income of the urban sector, the result will be cost-push inflation.

• Relative prices must be adjusted within the agricultural sector. The response to a uniform price shift and to changes in relative prices will be modest unless the instruments of bureaucratic intervention are removed. In the former socialist countries, price reform and institutional change are linked: removing bureaucratic constraints on agents' decisions is essential to price reform.

• The transmission mechanism that links domestic to international prices and consumer to producer prices must be changed. Strengthening the momentum of the negotiations on trade liberalization is important to the long-term success of reform in Eastern Europe. But removing relatively cheap subsidized imports will make it harder in the short run for these economies to meet the needs of their most vulnerable consumers.

In Eastern Europe and the USSR, the political and administrative problems of introducing a new tax system are formidable, but do not justify substituting commodity taxes for a more modern fiscal system. The difficulties with the changeover to a new tax system are transitional, rather than endemic, and delay in introducing more appropriate taxes will simply build new distortions into the reformed economies.

• The needs of vulnerable groups must be monitored and addressed. In developing countries, policy reforms in agriculture often imply raising food prices to provide better incentives to producers. Eliminating food subsidies reduces urban income in relation to rural income, because food prices must go up. And price reform can hurt vulnerable parts of the population. The challenge during the adjustment process is to see that large sums of money targeted to help the poor are appropriately distributed to the needy.

In this important look at what the reforming countries of Eastern Europe can (and cannot) learn from the developing countries, Braverman and Guasch discuss these and other issues involved in reforming prices; credit, financial institutions, and marketing boards; property rights, land tenure, and privatization; research, extension, and technology; and efforts to remediate environmental degradation.

A central dilemma in the reform of the Eastern European economies is the tension between commitment and flexibility. Economic agents must believe that the government will play by the new rules and will force others to do so too. Yet the rules must occasionally change or be adjusted as circumstances change. Modern economic theory is of little help in the art of merging flexibility with credibility. Western technical assistance and international financial help can be effective only if professionals of the East and West work together, as this is a process of joint learning, not a pure transfer of knowledge.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE under the Bank's program objective for private sector development and public sector management, with special emphasis on Eastern Europe. This paper was presented at the August 1990 annual meeting of the American Agricultural Economics Association in Vancouver, Canada. It will be published in the *American Journal of Agricultural Economics.* Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Cicely Spooner, room N8-037, extension 30464 (22 pages).

539. Maternal Health in Jamaica: Health Needs, Services, and Utilization

Chris Naschak Feifer

The main causes of death in Jamaican women are largely preventable. Jamaican health care for women should be improved by providing more family planning services; good community-based prenatal education and screening; more training for health care workers; better community education; better health record-keeping; and better transportation for health care workers and women seeking health care services.

Unstable unions contribute significantly to the high fertility levels in Jamaica. Women are often the sole financial, social, and emotional providers for their families. Multiple responsibilities make it difficult for them to seek health care.

High fertility is a particular problem among teen women. Jamaican teens have limited knowledge of reproduction and conception, and a pronatalist attitude (one must have a baby to attain womanhood) is reinforced by widespread misperceptions about contraceptive methods.

Women often fear contraception will alter their menstrual patterns, make them irreversibly sterile, or in other ways harm them. Many women believe, for example, that intrauterine devices can get lost in their body or will hurt their sexual partners; some visualize tubal ligation (tying the tubes) as tying the vagina so they can no longer have sex. There is a great need for health education to overcome such misperceptions, which may block demand for family planning services.

The main health issues for Jamaican women are nutrition (anemia significantly affects pregnant women), fertility, infection, chronic diseases, and stress and so-

cial problems. The two leading causes of adult death for women are cerebro-vascular accidents and coronary heart disease – – of which high blood pressure is a major component among black women. Infections that affect women include those resulting from sexually transmitted diseases, inappropriate care for abortions and childbirth, and poor hygiene associated with menstruation.

Congenital anomalies and perinatal morbidity are common causes of infant mortality and are believed to be the result of high fertility in older women and teens. Prematurity is a problem, as are intrapartum asphyxia, diarrheal diseases, and malnutrition. Early weaning was identified in the late 1960s as the most important cause of malnutrition and infant mortality in Jamaica.

The main factors causing stress for Jamaican women include unemployment, economic inadequacy, separation of partners, male promiscuity, limited availability of schooling for children, unreliability of goods and services, and violence. Proposed reforms include maternal education, directed economic development, targeting women's ability to gather resources and lower the burden of household responsibilities, and sociopolitical campaigns to increase women's ability to attain ideal fertility levels at appropriate ages and to get medical care when they need it.

The Jamaican health care system needs more family planning services for those who want them; good community-based prenatal education and screening and hospital delivery for high-risk pregnancies; better training of health professionals and paraprofessionals, including midwives, with special attention to the professional isolation of rural health care workers; better community education, including better training of professionals to communicate with their patients; better health record-keeping; and better transportation, so midwives can visit their patients more often and so women can spend less time getting to health care providers.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department, in cooperation with the Human Resources Division, Technical Department, Latin America and the Caribbean Regional Office. It is part of a larger effort in PRE to improve women's reproductive health. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (27 pages).

540. Venture Capital Operations and Their Potential Role in LDC Markets

Silvia Sagari and Gabriela Guidotti

Venture capital may play an important role in supporting entrepreneurial development and small business growth. But institutional arrangements and instruments must be carefully chosen, taking into account the lessons from countries where venture capital has been a reality now for a few years. The Bank's role should be largely to disseminate these lessons.

Venture capital attempts to cater to the financial and managerial needs of new operations through arrangements that involve essentially the investor's equity participation in a firm, through the direct purchase of stock or through warrants, options, or convertible securities; a long-term investment horizon (five to 10 years); and the investor's active involvement in the invested company. Typically, venture capital finances start-ups and the expansion of existing operations in terms of advancing into new stages in the production and/or the distribution process.

What role can venture capital be expected to play in financial markets in developing countries? For one thing, say Sagari and Guidotti, it makes little sense merely to transplant techniques directly from the developed to the developing world. The difficulties that traditionally conceived venture capital operations may face in these markets appear many and varied. They have to do with the characteristics of the projects being generated, the size and purchasing power of the domestic markets, the lack of adequate skills, entrepreneurs' attitudes toward sharing control, difficulties with exit mechanisms, and so on.

It may be difficult in many LDC markets to find a series of innovative "high-tech" enterprises that can capture a business niche in which to grow. Yet venture capital operations could flourish in low technology and in the service sector, where competitive advantage might result from an innovative distribution system or marketing strategies. New business opportunities are likely to emerge in deregulating industries, the transfer of technologies, and the marketing of ideas already tested in developed countries. In the smaller LDC markets, exports may provide the potential for growth for manufactured products.

What role should government play? In terms of direct financial support, the record of development banks with venture capital funds has been dismal. Sagari and Guidotti suggest that a more appealing alternative might be for governments to set aside a small "pilot" fund to be managed under contract by a private group, with a remuneration scheme dependent on the performance of the portfolio. Otherwise, the government's main role should be to provide appropriate tax incentives, support the establishment of sound organized markets for new companies, and ensure that the regulatory framework for pension funds, insurance companies, and other institutional investors does not unduly prevent them from investing in venture capital firms of recognized performance.

What role should the Bank play? Venture capital activities are essentially small-scale, so making them the focus of major Bank operations would not be recommended. The Bank's main role should be to disseminate the lessons learned in countries where venture capital has been a reality for some years. The Bank might also have a role in continuing research in some aspects that are still largely unexplored; examples are the financial performance of venture capital firms in the East Asian markets or the interaction between universal banks and venture capital activities.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in PRE to explore different options for financing the productive sector and promoting private sector development. The paper explores the potential of venture capital operations as a way to finance start-ups and to expand existing operations in terms of advancing into new stages in the production and the distribution processes. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Zena Seguis, room N9-005, extension 37665 (63 pages).

541. Pricing Average Price Options for the 1990 Mexican and Venezuelan Recapture Clauses

Stijn Claessens and Sweder van Wijnbergen

Pricing models are developed to value the recapture clauses in the 1990 Mexican and Venezuelan debt restructuring agreements. The current values of the recapture clauses are less than one-quarter of the maximum contractually possible and decrease as the standard deviation of the oil price increases.

Making restructured sovereign debt obligations contingent on exogenous factors (such as world oil prices) allows some of the risk to be transferred to creditors who have comparative advantage in carrying the risks — as they can diversify them in capital markets.

Contingencies also increase the borrowers' likelihood of fulfilling their (new or restructured) external obligations — and can improve the heavily indebted countries' incentives to invest and adjust, increasing further the likelihood they will service their external obligations.

The 1986 agreement between Mexico and commercial banks included some contingency facilities where new money would be forthcoming if international oil prices fell below a certain level or when Mexico's growth rate was to fall short of a certain rate. In the 1990 Mexico and Venezuela agreements, future debt service obligations were indexed to factors largely exogenous to the countries — the so-called recapture clauses.

Under the recapture clause in Mexico, 30 percent of the extra oil revenues Mexico gets if the price of oil rises above $14 per barrel (adjusted for U.S. inflation) will accrue to the banks that have granted debt service relief. (This amount is not to exceed 3 percent of the nominal value of the debt exchanged for these bonds, in any year.) The value of the recapture clause at maturity depends on three variables: how much oil Mexico exports, how oil prices behave, and the behavior of inflation rates.

Export volume is not a factor in Venezuela's 1990 recapture clause, which in other ways is similar to Mexico's.

Claessens and van Wijnbergen develop pricing models for options written on average prices and contingent contracts used in sovereign debt restructuring. They use the models to price the recapture clauses in the 1990 Mexican and Venezuelan debt restructuring agreements.

The current values of the recapture clauses are less than one-quarter of the maximum contractually possible and decrease as the standard deviation of the oil price increases.

This paper — a joint product of the Debt and International Finance Division, International Economics Department and the Country Operations 1 Division, Country Department II, Latin America and the Caribbean Regional Office — is part of a larger effort in PRE to study the benefits and costs of contingent external debt contracts and debt and debt service reduction operations. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 31047 (14 pages).

542. The Metals Price Boom of 1987-89: The Role of Supply Disruptions and Stock Changes

Boum-Jong Choe

Supply disruptions and low stocks, both transitory in nature, had a strong impact on the boom in metals prices in 1987-89, as did the growth of OECD industrial production and depreciation in the U.S. dollar.

The markets for base metals have changed remarkably in the last few years. A long period of extremely low prices was followed by a sustained price boom in 1987-89 — which continued into 1990 for copper, nickel, lead, and zinc.

What caused the price increases and what they portend for the future are critically important for developing countries heavily dependent on exports of those commodities.

Choe examines the causes of the price boom in terms of market fundamentals. Because of the apparent importance of supply disturbances and low stocks, he developed a semistructural price equation to incorporate supply-side variables. The resulting estimates fit better and explain more than those in earlier studies. Estimation and simulation results suggest that:

- The growth of OECD industrial production was the most consistently important factor in the higher metals prices. This positive factor was largely offset by expected increases in metals production. Much of the boom was attributable to such transitory factors as changes in the exchange rate, supply shocks, and low stocks.
- Depreciation of the U.S. dollar was the dominant contributor to the price increases in the earlier part of the boom — particularly for nickel, lead, and zinc. Changes in interest rates were relatively unimportant.
- Supply disturbances and low stocks significantly increased prices, particularly in 1988. Low stocks have been a more important, consistent factor than supply disruptions.
- Market fundamentals explain most of the price boom but a substantial component remains unexplained, suggesting that excessive speculation ("bubbles") may have contributed to the price increases, particularly for nickel in 1988.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to understand the short- and long-run behavior of primary commodity prices and the implications of movements in these prices for the developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sarah Lipscomb, room S7-062, extension 33718 (21 pages).

543. Development Assistance Gone Wrong: Why Support Services Have Failed to Expand Exports

Donald B. Keesing and Andrew Singer

Policies impeding and neglecting the development of commercial services are a significant cause of the difficulties developing countries experience trying to expand exports. It is misguided to entrust public sector trade organizations with primary responsibility for providing exporters with support services that are better provided by private commercial enterprises.

For more than 20 years, aid organizations have helped developing countries supply export promotion, marketing, and other services to assist exports. Manufactured exports have been especially sought, though typically the policy environment

for them remains no more than partly satisfactory. Public sector trade promotion organizations, the main recipients of this aid, turn out to be rarely satisfactory at providing practical information, assistance, and support for export expansion in such a setting.

Keesing and Singer identify four reasons why external assistance to support services has been generally ineffective in expanding manufactured exports:

- The legacy of import substitution in developing countries includes deep-seated attitudes that work against exports, along with outdated production technology, low product quality, poor services to customers, and business skills unsuited to exports. Regulation still impedes market responsiveness, while unfavorable policies have deprived local businesses of export know-how. Thus, the task is huge.
- External assistance for support services has rarely been directed toward helping export firms overcome their production problems, improve their supply capabilities, or adapt what they supply to the requirements of the target market. There has been systematic neglect of firms' need for expert advice in these crucial areas.
- Donor agencies that provide funding and advice in this field almost never insist on results or even require that progress be monitored in terms of exports achieved. Too many donor agencies with money to give away chase too few good project opportunities. The International Trade Center is not in a position to reject a request for an unpromising use of UNDP funds and is not allowed to recommend policies. And donor agencies are seldom successful at extending their impact beyond government.
- Support for the marketing of manufactured exports has usually been provided through an inappropriate delivery mechanism, a single public service supplier in which officials try to provide many services, free of charge. This has been ineffective in countries with only partly satisfactory policies toward manufactured exports. Donors have been committed to a strategy of institution-building but permanent trade promotion organizations set up early in development turn out to be poorly suited to a developing country's later export needs. They even become a vested interest against needed change. The complexity of the task, lack of competition in services, deficiencies of public officials in a service role, and rigid procedures contribute to their poor results. In some countries, systematic assistance to export marketing has been worse than ineffective because it has diverted attention from the fundamental need for policy reform.

Most developing countries assume that "export promotion" is inherently a government task. But what developing countries need most is access to services from outside the firm that can compensate for the limited expertise within it. The required expertise is rarely found in public sector organizations. New approaches in this field center on the provision of consultants from more advanced countries to work with exporters on their production and supply problems.

See also the companion paper, WPS 544.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to study export development and supply response. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheila Fallon, room N10-017, extension 37947 (44 pages).

544. How Support Services Can Expand Manufactured Exports: New Methods of Assistance

Donald B. Keesing and Andrew Singer

Proposals for making support services effective through outside assistance. Especially recommended based on experience are packages of assistance and promotion built around grant funds that pay firms half the cost of commercial services suppliers such as consultants from abroad, as well as some of their marketing expenses.

Assistance to support services for exports has rarely boosted manufactured exports from developing countries whose export policies were less than fully satisfactory. This is particularly true of services that involve consultant advice, export promotion, marketing assistance, and provision of export-related information.

Keesing and Singer make four recommendations for improving such services:

- Among support services, emphasize services that improve firms' know-how and performance in overcoming supply difficulties, which are the biggest obstacle to expansion of promising manufactured exports. Provide consultant assistance to promising firms in products with strong export prospects, to help them improve their supply capabilities and performance. Advice from consultants with export know-how can substitute for learning from buyers and may be better. Most manufacturing firms in developing countries are unaware of how far behind they are in current practices in systems engineering, productivity, quality control, and other aspects of production management. When they have been cut off for years from international "best practice," help from outside consultants can provide dramatic results.
- Give exporters ready access to commercial service suppliers abroad. As exports develop, systematically favor the development within the national economy of competing (primarily private) service suppliers, some of them foreign-owned. Encourage the establishment of local branches or affiliates of multinational service firms. Dismantle policy obstacles to the use of consultants and other service suppliers from abroad and encourage a policy environment that supports vigorous, diversified export growth. Abolish protection of, and monopolies in, services for exporters. Insist that public service organizations, if they continue to function, charge commercial prices for their services and compete with private services. Encourage private suppliers to compete in providing information services, each with telephone access to many online databases and other commercial information services abroad.
- Rely on specific, time-limited projects or project components involving temporary infusions of specialized resources, where and when needed, to channel external assistance to services supporting manufactured exports. Direct each project component at one export-expanding objective within that time-frame. Any project to expand exports should include specific measures directed at turning passive or nonexporters into active exporters.
- Create packages of assistance built around one or more grant funds. Through these funds, provide cost-sharing grants to firms to help pay the costs of services from suppliers of their choice. The institutions such as banks that administer these funds promote to promising firms exporting and the use of service suppliers (typically from advanced countries) to help

expand exports. They assist firms in preparing export expansion plans and grant applications, and help identify suitable service suppliers. In funds set up with World Bank assistance in India, grant funds come with all necessary government approvals and are complemented by funds for term lending.

See also companion paper, WPS 543.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to study export development and supply response. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheila Fallon, room N10-017, extension 37947 (44 pages).

545. Health and Development: What Can Research Contribute?

Nancy Birdsall

The conclusions of past research and priorities for future research on the relationship between health and economic development: the effects of development on health and the effects of health on development.

This article will be published in a book of proceedings (edited by Chen, Kleinman, Potter, and Ware) of a workshop on how social science research has contributed to the health transition — held in June 1989 at Harvard University.

Birdsall's survey of the state of research on the relations between health and economic development discusses first research on how development affects health and then research on how health affects development. Some areas covered:

Research on the household-level determinants of health could aid in the design of public programs to improve health — especially in developing countries, where improving health will require changes in individual and household behavior.

Research on the demand for health care — including the price elasticity of demand for health services and how using health services affects health — could make it easier to improve government pricing policies and design cost control mechanisms.

Work on the determinants of adult (not infant and child) health (morbidity and mortality) should be a high priority, given the epidemiological and demographic transitions going on in virtually all developing countries.

Better understanding of the political economy of health — especially of alternative financing and cost control mechanisms — combined with work on the determinants of adult health, will be critical to public policy to deal with rising health care costs, through the design and efficient financing of public and private health insurance, and through greater emphasis on prevention of adult chronic and degenerative disease.

More systematic analysis of the social returns on investments in health in developing countries may be needed to support continuing increases in ever costlier health care. It is difficult to do cost-benefit analyses, partly because of the difficulty of valuing human life — and of valuing a healthy, painfree life more than a sick and painful one. But other approaches are possible, including analysis of the effects of an individual's health status on productivity (at work or school) and analysis of the social and economic costs of poor health for families and communities.

Efforts to measure the returns on investment in good health are critical in a world of scarcity, where the benefits of many worthwhile investments must be compared. And such efforts are likely to change not only our sense of how much to invest in health but our sense of how to allocate such investments.

This paper was prepared by the author when she was Chief, Population and Human Resources Operations Division, Country Department I, Latin America and the Caribbean Regional Office. It is part of a larger effort in the Bank to set research priorities in the economic management of social programs. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Livia Mitchell, room I4-035, extension 38589 (39 pages).

546. The Transition to Export-Led Growth in South Korea, 1954-66

Stephan Haggard, Byung-Kook Kim, and Chung-in Moon

South Korea's transition to export-led growth was a product of the interplay of four factors: pressure from the United States, strong executive power, bureaucratic reform, and a restructuring of the relations between the state and business.

In analyzing the turning point in Korea's transition in the early 1960s from a strategy of import substitution to one of export-oriented industrial growth, Haggard, Kim, and Moon examine not just the economics of change but the politics of economic policy and reform — the incentives facing state and business elites and the institutional context in which they operated.

Their analysis shows that the transition to export-led growth in South Korea was a product of the interplay of four factors: pressure from the United States, the dominance of the executive branch, institutional reform within the bureaucracy, and a restructuring of relations between the state and business.

Their findings help reconcile the debate between neoclassical and "statist" positions on Korea's economic transformation. They also provide an example of an institutional approach to economic development that is relevant for other developing countries.

They also draw some conclusions about the role of outside pressure in policy reform, about the importance to reform of administrative capability and organization, and about the politics of policy change. Among those conclusions:

- Economic development strategies are not simply packages of discrete policies — but involve the development of administrative capabilities.
- The timing of political cycles affects economic reform.
- Economic policies are more likely to be effective if the private sector has channels of access to government but does not dominate the policy process. Some mechanisms of insulation are required to shield business from its own instinctive tendency to exploit rent-seeking opportunities.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to analyze the way that political and institutional factors interact with economic policy reform. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Emily Khine, room N11-061, extension 39361 (43 pages).

547. Does High Technology Matter?: An Application to United States Regional Growth

Andrea Boltho and Robert King

U.S. regional data show that jobs created through the birth of high-tech firms — though small-scale — help explain why growth rates differ between states. A high birthrate for firms is negatively correlated with growth, but innovative activity at technology's frontiers seems to raise the standard of living.

The International Economics Department, International Economic Analysis and Prospects Division (IECAP), prepares regular reports on the long-term prospects for growth of the global economy, and the implications for developing countries. This paper is part of IECAP's research program on sources of growth, why growth rates differ, and how structural change affects long-term growth prospects.

Boltho and King studied the influence of high technology on output growth by using cross-section data on U.S. states. Drawing eclectically on the sources-for-growth literature, they estimated a base equation that explains about half of the differences in per capita gross state product growth rates in the 48 contiguous states in the decade 1976-86. Using microdata on employment in high-tech activities, they conducted tests to see how important high-tech was — as measured by how many jobs were created by new firms — in explaining growth differences between regions.

They found that:

- Starting income levels, changes in the investment share of output, and changes in the labor participation rate influence regional growth rates.
- A higher overall birthrate for firms on average for 1976-86 is negatively correlated with growth.
- But the share of new jobs created in new high-tech activities has a powerful, positive effect on per capita income growth. This supports the hypothesis that innovative activity at technology's frontiers helps raise living standards.

This paper — a product of the International Economic Analysis and Prospects Division, International Economics Department — is part of a larger effort in PRE to study long-term prospects for growth in the global economy. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Milena Hileman, room S7-214, extension 31284 (12 pages).

548. Deposit Insurance In Developing Countries

Samuel H. Talley and Ignacio Mas

The pros and cons of deposit insurance systems — and guidelines for their design.

About a dozen developing countries have deposit insurance systems and several others are considering establishing them. These systems are typically created to prevent contagious bank runs, to provide a formal national mechanism for handling failing banks, and to protect small depositors from losses when banks fail.

Without a deposit insurance system, many developing nations in recent years have extended implicit deposit protection to depositors on a discretionary, ad hoc basis.

Deposit insurance systems have several advantages over these implicit protection schemes. Deposit insurance probably gives the banking system more protection against bank runs, provides more protection for small depositors, and — by replacing discretion with rules — provides a faster, smoother, more consistent administrative process.

On the other hand, deposit insurance probably creates more moral hazard for depositors, thereby contributing to the erosion of market discipline and increased bank risk-taking. Deposit insurance also tends to be a more expensive mechanism for protecting depositors because it offers less freedom of action to policymakers than an implicit scheme. Finally, developing countries often do not adequately fund their deposit insurance schemes. As a result, the systems often lack credibility in the marketplace and bank supervisors may be unable to close insolvent banks because the insurer would be unable to pay off insured depositors.

Deposit insurance systems are relatively complex mechanisms that must be designed properly to be effective. They generally function best if they are public, if they are adequately funded and have government backup support in a crisis, if bank membership is compulsory, if deposits are not fully insured, and if the insurer can resolve bank failures in a variety of ways.

Deposit insurance systems are no substitute for effective bank supervision in maintaining a stable banking system. Moreover, they are likely to founder sooner or later without effective bank supervision.

This paper is a product of the Financial Policy and Systems Division, Country Economics Department, and the Industry, Trade, and Finance Division, Technical Department, Latin America and the Caribbean Regional Office. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Megan Pomeroy, room N9-003, extension 37666 (116 pages, including appendices).

549. Intertemporal Substitution In a Monetary Framework: Evidence from Chile and Mexico

Patricio Arrau

The Euler approach seems to work better when money is considered. For both Chile and Mexico the estimates of the intertemporal elasticity of substitution are greater than one.

Arrau estimates a monetary Euler system of a utility-maximizing representative consumer from two inflationary Latin American countries: Chile in the late seventies and Mexico in the early eighties.

The results show that money is necessary to get reasonable parameters of the utility function. For both countries, tests of the overidentifying restrictions are satisfactory at usual levels of significance and estimates for the intertemporal elasticity of substitution are greater than one.

The results indicate that velocity sensitivity to the nominal interest rate is lower for Chile than for Mexico, but this difference could be explained by a model of currency substitution.

More important, a model of currency substitution may be the appropriate way to explain the monetary puzzle observed in Mexico after the stabilization attempt of late 1987.

Despite the fact that inflation was sharply (and permanently) reduced, velocity did not go down. The model of currency substitution suggests that a good way to hedge against a discrete devalua-

tion would be to increase liquidity in foreign — not domestic — currency.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to apply new models of international finance to developing economies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 31047 (27 pages).

550. Firms' Responses to Relative Price Changes in Côte d'Ivoire: The Implications for Export Subsidies and Devaluations

John L. Newman, Victor Lavy, Raoul Salomon, and Philippe de Vreyer

Firms in Côte d'Ivoire would sell more to the foreign market when it is more profitable to do so. Exports would respond positively to increases in export prices and negatively to increases in import prices.

Since the early 1980s, export subsidies have been proposed as a way to counteract the adverse effects of an exchange rate overvaluation among member countries of the West African Monetary Union. It was felt that one way to alter the relative price of traded to nontraded goods was to attempt to mimic devaluation by raising import tariffs and export subsidies by the same proportion.

Arguments on both sides of the issue were not based on extensive empirical evidence. This paper models the short-run response of firms to exogenous changes in export and import prices, taking into account the possibility that firms may sell to both domestic and foreign markets.

Contrary to prior expectations, the results suggest that firms in Côte d'Ivoire do sell more to the foreign market when it is more profitable to do so. Exports respond positively to increases in export prices and negatively to increases in import prices.

But the fact that exports would be lower if an export subsidy were combined with an import tariff is not an argument for introducing an export subsidy alone. Firms producing tradable goods suffer from an overvalued exchange rate not only because they would receive a lower price for their exports but also because they must compete against lower priced imports.

Introducing an export subsidy alone would be insufficient to increase output in the tradable goods sector. The combination of an export subsidy with an import tariff, which comes closer to mimicking the effects of devaluation, would serve to counteract some of the adverse effects on output of an overvalued exchange rate. What the longer run effects would be remain to be seen.

Two methodological results emerged. First, the exercise of estimating firms' output supply and input demand functions using flexible functional forms was successful. The estimates satisfied theoretical curvature properties and the price effects were estimated precisely.

Second, estimating supply and demand jointly leads to considerably different estimates of export and output supply responses than estimates based on supply alone.

This paper — a product of the Welfare and Human Resources Division, Population and Human Resources Department — is part of a larger effort in PRE to analyze the relationship between trade policy and industrial structure and performance. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Brenda Rosa, room S9-137, extension 33751 (36 pages, including tables).

551. Australia's Antidumping Experience

Gary Banks

The Australian experience suggests that antidumping is, at heart, about safeguarding the interests of particular industries. As long as this is true, there will always be tension between antidumping policy and the broader interests of the national economy and the world trading systems.

One side of the debate on antidumping argues that dumping is *not* a problem in international trade — that it is a normal business practice that benefits the importing country's consumers and user industries — and that antidumping is inherently protectionist.

The other side argues that an antidumping system has a legitimate role to play in maintaining a liberal trading order, but that the process is being abused for protectionist ends.

Gary Banks uses Australia's experience in the last decade to shine light on the issue.

Antidumping is a complex process with many rules that, depending on interpretation or minor changes, can have important effects on the fortunes of home industries. This means that the system and how it operates will remain of abiding interest to import-competing industries. Lobbying for rule changes or favorable interpretations will continue as long as the expected returns from such lobbying exceed the costs. Whether or not antidumping serves as a protectionist device in Australia, says Banks, industry sees it in that role.

It is difficult for industries to get the conventional border protection that was common 10 years ago. Under trade liberalization, "protection" has become a discredited concept in Australia. But in the United States and elsewhere, "fairness" is always popular — and antidumping (the very term) is seen as being about achieving fairness.

It is the "low-track" route for getting protection against imports. It takes place according to rules and procedures that industry and specialist consultants soon master, away from the public glare. More "high-track" routes are more costly and more likely to meet persuasive opposition.

The demand for antidumping as a protectionist device will continue and can be expected to rise when times "get tough," says Banks.

Australia's new Anti-Dumping Authority (ADA) has brought a fresh and more critical eye to the antidumping process in Australia. In particular it has tightened up on how the injury test is implemented and has given a second pass at "normal value" arithmetic. Several times its assessments have differed from those of Customs — in a direction more sympathetic to the foreign importer. But that may have more to do with the government's current attitude than with the institutional innovation itself.

The ADA operates within the same industry-specific framework as the Customs Service but is more attuned to the political environment in which technical decisions are made. But that can cut both ways.

The antidumping system retains a

degree of administrative or ministerial discretion that will always make it vulnerable to the business and political cycles. That is true whatever the country. The Australian government has at least wrestled publicly with the issues to arrive at a more precise, objective position.

But on the three touchstones of the antidumping process — definitions of normal values, material injury, and causality — arbitrary judgments will always need to be made at many points. These judgments will inevitably be colored by the political and economic climate of the day. Compared with the early 1980s, says Banks, that climate is currently relatively "dry" — but that can change again.

The evidence from Australia's experience, says Banks, suggests that dumping may be a problem in international trade but that antidumping presents even greater problems. Tinkering with the procedures and criteria for taking antidumping action can help reduce its protectionist tendencies somewhat (though such changes are reversible). But it does not resolve the fundamental problem that antidumping is at heart about safeguarding the interests of particular industries. As long as this remains the objective, there will always be tension between antidumping policy and the broader interests of the national economy and the world trading system.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the economics of the emergence of "fairness" as a standard for regulating international trade, its implications for the continued openness of the international trading system, and its continued functioning as an important vehicle for development. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Nellie Artis, room N10-013, extension 37947 (58 pages, with figures and tables).

552. Selected World Bank Poverty Studies: A Summary of Approaches, Coverage, and Findings

Nancy Gillespie

A review of country economic and sector work on poverty issues — and recommendations for improving future country economic and sector work.

Since the establishment in 1987 of the Task Forces on Poverty and Food Security, a good deal of country economic and sector work has analyzed poverty issues.

Gillespie reviews this work to identify the main policy issues it raises; describe how the Bank approaches the study of poverty issues (is the focus macroeconomic, sectoral, or on target groups?); summarize the main findings and lessons learned from the country economic and sector work reviewed; assess the extent to which country economic and sector work has identified strategies, policy reforms, and programs to reduce poverty that could be supported by the Bank's policy or project lending; raise additional issues that could be addressed in future poverty-related country economic and sector work.

Among other things, Gillespie concludes or recommends that:

- A poverty profile should assemble enough information about the poor to permit analysis of the causes of poverty. Income-based measures capture only one dimension of poverty. Information on the economic activities and nutrition, health, and education of the poor should also be included, with trend indicators.
- Comprehensive studies produced important policy conclusions. The more narrowly focused studies tended to neglect potentially important aspects of poverty strategy. Studies that focus only on targeting services in the social sectors, for example, may fail to consider important macroeconomic or sectoral policy issues that affect the income prospects of poor people. Such issues are vital not only to raising the demand for social services but are central to any sustainable strategy for poverty reduction.
- On balance, studies devote more attention to improving the human resources of the poor and to devising short-term social sector safety nets for the poorest, than to identifying strategies to raise their incomes. Country economic and sector work should explore the determinants of poverty, not only access to welfare-enhancing goods and services.
- Particular priority should be given to analyzing links between economywide policies that affect growth in employment, the functioning of the labor market, the role of complementary public spending and investments, and poverty. Poverty strategies should give more attention to the dynamics of urban informal and rural nonfarm activities in providing income; the problems of urban poverty and their implications for poverty reduction strategies; ways to enhance small-scale agricultural productivity; the relationship of poverty and land tenure structures; the role of the private sector in product and service delivery in the social and agricultural sectors; the role of infrastructure provision in poverty reduction; and the complementarity of investments in the productive and social sectors.
- Issues of political economy are too important to be ignored. At a minimum, political issues should be addressed in the initiating memorandum and studies should identify and elaborate politically feasible strategies.
- Issues of how to finance poverty reduction strategies are generally neglected. This is an important gap in the studies, particularly for more operationally oriented country economic and sector work.
- Institutional findings from all sectors emphasize the need to make special efforts to reach the poor — but few studies offer guidance on how to do so. Such guidance should be a priority for operationally oriented country economic and sector work.

This paper — a product of the Review and Analysis Division, Policy Review Department — is part of a larger effort in PRE to help improve the treatment of poverty issues in the Bank's analytical and operational work. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Marilou Abiera, room S13-033, extension 31262 (79 pages, including annexes).

553. Money, Inflation, and Deficit in Egypt

Marcelo Giugale and Hinh T. Dinh

Despite huge public sector deficits, Egypt has escaped high inflation by depleting three nonrecoverable assets: creditworthiness, money illusion, and enforceable foreign-exchange controls. Without a tough reform program, the country will soon be in a serious crisis.

Egypt has been able to escape high inflation by depleting its stocks of creditwor-

thiness, money illusion, and enforceable foreign-exchange controls. These nonrecoverable assets are quickly becoming extinct and the economy is on an unsustainable path.

Giugale and Dinh present a short- and medium-term dynamic model of the Egyptian economy and use it to simulate the effects on output and inflation of a stabilization-cum-adjustment program.

Their conclusion: make the public sector live within its means, and do so at once. This is a demanding prescription; political and social pressure can become intolerable under adjustment. But Giugale and Dinh show that both a slowdown in output and the initial rise in inflation associated with a tough reform program will be short-lived (between one and two years).

And a do-nothing strategy will soon push the country into a serious crisis, the correction of which will certainly be more painful. Among other things, Egypt depends on basic imports such as food.

This paper is a product of the Country Operations Division, Country Department III, Europe, Middle East, and North Africa Regional Office. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Vasantha Israel, room H10-027, extension 36097 (49 pages).

554. Korea's Labor Markets Under Structural Adjustment

Dipak Mazumdar

Korea's ability to keep the economy from going off the rails has been as remarkable as its achievement of high long-run growth rates. The key to the success of Korea's labor policy — state guidelines limited the wage increases under structural adjustment — was the high rate of total factor productivity growth.

Korea is an interesting case study in long-term and short-term adjustment. Korea's rate of economic growth after 1965 was high at a time of rapid, fundamental economic restructuring. Korea's open, export-oriented economy — dependent on imports of oil and intermediate inputs — was exposed to oil price shocks and interest rate hikes.

To keep up the rate of investment, Korea borrowed heavily in the world market — and appeared to be highly vulnerable. And it had a history of walking a tightrope between inflationary pressures and balance of payments deficits.

Korea's ability to keep the economy from derailing has been as remarkable as its achievement of high long-term growth rates.

Mazumdar concludes that wage behavior in the formal sector played a significant role in adjustment, but not because there was an elastic supply of labor at a stagnant wage during expansion. On the contrary, real wages rose impressively throughout the period of growth. But real wage increases lagged behind the growth rate of labor productivity (except during the "big push" of the late 1970s). And during the years after the oil shock real wages stagnated or even declined somewhat despite a spurt in productivity.

The wage-setting mechanism seems to have been strongly influenced by state guidelines, which encouraged wage increases as incentive payments but kept them within the limits of productivity increases — subject to the necessity of dealing with short-run shocks.

The key to the success of Korea's labor policies was the high rate of total factor productivity growth. This also allowed for continued nominal devaluation of the *won* without triggering secondary pressures on domestic costs or damaging external competitiveness.

The above points pertain to the behavior of the large-scale "formal" sector of the economy. But wage employment in small firms and the self-employed constitute a sizeable part of the labor market. How did labor earnings in these sectors perform relative to the wage gains in the formal sector? For lack of data Mazumdar focused on farm workers, wage earners in small firms, and also a section of the workforce whose relative earnings have been low throughout — that is, female workers.

Women and workers in the farm sector and small firms shared to some extent in wage increases, but the long-term record for these groups is not entirely satisfactory.

This paper — a product of the Studies and Training Design Division, Economic Development Institute — is part of a larger effort in PRE to understand the behavior of labor markets in the process of structural adjustment of the economy. The paper is one of the country studies prepared for the project on "Labor Markets in An Era of Structural Adjustment. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Marshall Schreier, room M4-023, extension 36432 (55 pages, including figures and tables).

555. The Macroeconomics of Price Reform in Socialist Countries: A Dynamic Framework

Simon Commander and Fabrizio Coricelli

The macroeconomic consequences of adopting different price rules for adjusting controlled prices in systems where controlled and market prices coexist and the implications of varying the proportions of controlled and market prices.

Commander and Coricelli analyze the macroeconomics of a system in which controlled and market prices coexist — as happens in socialist countries carrying out gradual price reform. They refer in particular to recent experience in Hungary and Poland with price reform.

They analyze the macroeconomic implications of adopting different price rules for adjusting controlled prices — and discuss the implications of varying the proportions of controlled and market prices. They find that:

- When expectations play an important role, the slow adjustment of controlled prices can serve as an "anchor" for the rate of inflation. But since price controls generally have negative effects on the budget, when money is passive and hence accommodates budget deficits, gradually adjusting controlled prices may fuel inflation through the fiscal/monetary channel. Consequently, expectations and budget adjustments may exert conflicting pressures on inflation, thereby complicating the management of a mixed system of controlled and market prices.
- In adjusting controlled prices, being too responsive to macroeconomic imbalances can destabilize the system; giving heavy weight to reducing the wedge between controlled and free prices stabilizes the system.
- Forward-looking behavior on the part of price-setters is conducive to stability; forward-looking behavior on the part of consumers is destabilizing.
- Complete price liberalization is

superior to a mixed system in terms of stability but is likely to be associated with substantial overshooting of the equilibrium inflation rate. Rapid price liberalization tends to produce an inflation rate that is initially higher, but less persistent, than gradual price liberalization would produce.

This paper — a joint product of the National Economic Management Division, Economic Development Institute, and the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to analyze the sources and dynamics of inflation in transitional socialist economies. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Olga del Cid, room M7-047, extension 39050 (45 pages).

556. Taxing Choices in Deficit Reduction

John Baffes and Anwar Shah

To control their deficits, Brazil, Mexico, and Pakistan should try to raise revenues and curtail spending simultaneously. In Argentina and Chile, the first priority should be to control public spending.

Baffes and Shah use the cointegration approach to determine whether deficits are more effectively controlled by raising taxes or controlling expenditures — or both. They use long-term historical time series data for Argentina, Brazil, Chile, Mexico, and Pakistan.

Many studies have examined causality in the relationships between taxes and spending in developed countries. Some have found evidence that higher spending tends to lead to higher taxes. Some have found that higher taxes lead to more spending. Some find that causality runs both ways.

Baffes and Shah find that Brazil, Mexico, and Pakistan have continuously tried to align revenues and spending to control the deficit and that spending and taxes tend to feed each other in those countries.

In Argentina and Chile, they found the deficit to be explosive — and caused by spending. There was no empirical evidence of efforts to adjust revenues to control the deficit.

They recommend that to control the deficit Brazil, Mexico, and Pakistan should try to raise revenues and curtail spending simultaneously. In Argentina and Chile, however, the first priority should be to control spending.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to investigate the causes and consequences of macroeconomic imbalances. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (24 pages).

557. The New Fiscal Federalism in Brazil

Anwar Shah

Fiscal arrangements in Brazil severely constrain the federal government's ability to fulfill its mandate as a national government. Municipal governments, meanwhile, have more revenues than they need, encouraging fiscal mismanagement. Reform is urgently needed to counteract Brazil's fiscal imbalance.

Brazil is a three-tiered federation of 24 states, two federal territories, a federal district (the capital), and 4,300 municipalities. In 1989 less than half of all government spending was controlled by the federal government. Brazil's new constitution gave autonomous broad powers to states and municipalities on certain tax and spending functions, with municipalities independent of and coequal to states.

Shah reviewed and analyzed the intergovernmental fiscal relations in Brazil. He found that:

- Federal and state governments are involved in purely local functions in an uncoordinated fashion.
- The administration of sales tax by all three levels creates duplication and confusion.
- Administration of the general value-added tax by the state involves unresolved issues about tax crediting on interstate trade.
- The state and municipal revenue-sharing funds do not distribute revenues fairly and equitably.
- Conditional transfers are arbitrary and driven primarily by political considerations. Programs work at cross-purposes and the subjective nature of these transfers may be sending the wrong signals to lower levels of government about laxity in fiscal management.
- Revenue-sharing constrains the federal government's ability to fulfill its mandate as a national government and is conducive to fiscal mismanagement as local governments are shying away from raising revenues from property taxes and user charges. The municipal governments have more money than they need. The state governments also face a financial squeeze but it should be short-lived as they have access to the value-added tax, a dynamic source of revenues. The federal government's problem is structural. Its revenues fall far short of its spending needs.
- In short, existing fiscal arrangements have created a vertical fiscal imbalance.

Shah presents policy options to resolve these problems.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to reform public sector management in developing countries. It is one of a series of discussion papers prepared for the Intergovernmental Fiscal Relations Project of the Public Economics Division. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (117 pages).

558. Alternative Instruments for Smoothing the Consumption of Primary Commodity Exporters

Kenneth M. Kletzer, David M. Newbery, and Brian D. Wright

To reduce price risk caused by the instability of primary commodity markets, countries that depend for export earnings on a single primary commodity can find substantial long-run protection by rolling over one-period futures. The practical benefits of a substantially longer hedging horizon may often be small.

Countries that depend on a single primary export for their foreign earnings are likely to experience sharp fluctuations in export earnings and their underlying wealth, because of the instability of all primary commodity markets. As part of structural adjustment, several countries

have liberalized their trade regimes, so domestic producers are no longer insulated from international price fluctuations.

Kletzer, Newbery, and Wright review the costs of export price instability and consider the role of conventional instruments (loans, price stabilization measures, future contracts, and futures rollovers for longer-term price protection), as well as instruments loosely called "commodity bonds." They weigh the implications of the risk of borrower default when the borrower's aim is smoothing consumption. They conclude:

- In principle, consumption-smoothing contracts might be valuable to countries dependent on an export commodity subject to price risk. Futures coverage could help if longer maturities were available. They conclude that substantial long-term protection is possible by rolling over one-period futures. The marginal net benefits of lengthening the horizon beyond the one production period (roughly observed in practice) depend upon transaction costs, the degree of serial correlation, and the discount factor. In practice, the extra benefits of a substantially longer hedging horizon may often be small.
- If production responds to incentives with a one-period lag, the rollover strategy does not provide perfect protection at the time the hedge is made — even if the production response to inputs is nonstochastic, as opposed to the case of one-period hedging.
- When a sovereign exporter can offer no collateral and is short of liquid resources, the use of futures is precluded by the need to furnish the margins that guard against default. The disadvantage of standard loans and buffer funds is that they will probably reach crisis states in which the resolution of the crisis is ill-defined. The lenders' recognition of this will dampen their enthusiasm.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to improve developing countries' management of the substantial commodity price risk which most face. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Julie Carroll, room S7-069, extension 33715 (69 pages).

559. Fiscal Policy and Private Investment in Developing Countries: Recent Evidence on Key Selected Issues

Ajay Chhibber and Mansoor Dailami

The key to sustained recovery in developing countries is the revival of private investment. This revival requires a coordinated set of credible policies — fiscal, exchange rate, tax, and public expenditure restructuring. In several countries the debt overhang is also an obstacle to achieving that credibility.

The importance of private domestic investment in growth and development strategies is important in the transition to the 1990s. In most developing countries in the 1980s, domestic investment bore the brunt of the total contraction in demand associated with external adjustment.

Increasingly there is agreement about the desirability of increasing the private sector's share in total capital formation by relying more on market forces and incentives. It is now widely accepted that expansion of private investment should be the main impetus for economic growth, and that public investment resources should gradually focus on social areas, including the alleviation of poverty and the upgrading of social capital and services. Investment opportunities have improved in the industrial countries so it is foolish to assume any favorable response by foreign investors to investments in developing countries without a strong commitment by indigenous private investors.

Chhibber and Dailami investigate several questions in connection with fiscal policy, its connections with the pace of private domestic investment and its role in the adjustment programs of developing countries: How do choices between alternative sources of deficit financing affect private investment? How does private investment in developing countries respond, for instance, to devaluation of the exchange rate? To what extent does public investment complement private investment and to what extent does it crowd it out in the competition for resources? How does the size of the fiscal deficit and alternative ways of financing it affect private investment? How do these options affect the real interest rate, credit allocation, and the real exchange rate, and how do those variables affect private investment? How does public spending affect private investment decisions? What effect does inflation have when there is no fully indexed tax system?

Chhibber and Dailami conclude that most developing countries have restricted access to foreign financing so there is direct competition between the public and private sectors for limited financial resources. Big fiscal deficits preempt funds and restrict private investors' access to them. But spending cuts must be structured to protect and even expand public investments that help private sector investment and — more important — to avoid physically crowding private firms out from product and factor markets.

With reduced fiscal deficits and financial liberalization, market forces will play more of a role in the volume and allocation of private investment. Tax policy will be increasingly important in influencing market investment decisions. This requires a better understanding of various institutional, financial, and tax factors that have led to so much corporate indebtedness in developing countries.

Chhibber and Dailami highlight the main elements of these factors that must be incorporated in determining the cost of capital to firms and the after-tax rate of return to investors.

This paper — a product of the Development Economics Vice Presidency — is part of a larger effort in PRE to understand the determinants of private investment. This paper is to be published in *Richerche Economiche*. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Bilkiss Dhomun, room S9-041, extension 33768 (44 pages).

560. The Persistence of Job Security in Reforming Socialist Economies

Milan Vodopivec

The job security and overemployment that characterize even the reforming socialist economies are the result not of planning but of a complicated bargaining among coalitions that results in a massive bailing out of the ailing or less productive firms and workers at the expense of the more productive ones and of the household sector as a whole.

The quest for efficiency underlies the reform efforts of the socialist economies, but job security and overemployment (redundant jobs) still characterize these economies. Vodopivec argues that reforming socialist economies have maintained job security not through planning but mainly through a complicated bargaining among coalitions (special-interest groups) that results in a massive redistribution. This redistribution amounts to a bailing out of the ailing or less productive firms and workers at the expense of the more productive firms and workers and of the household sector as a whole.

Vodopivec substantiates his argument with an empirical analysis of the redistribution associated with the soft budget constraint in Yugoslavia in the 1970s and 1980s. He shows that redistribution to be the outcome of a confrontation among coalitions and explains its compensatory nature.

This paper — a product of the Socialist Economies Reform Unit, Country Economics Department — is part of a larger effort in PRE to investigate the labor markets in socialist economies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact CECSE, room N6-045, extension 37188 (44 pages).

561. The Labor Market and the Transition of Socialist Economies

Milan Vodopivec

One challenge of the transition of socialist economies to multiparty democracy and a market economy will be to reallocate labor while minimizing the social costs of unemployment. Vodopivec identifies the key issues of labor reform and makes policy recommendations.

All socialist countries of Eastern Europe except Albania are now starting to fundamentally restructure their economic and political systems — with the clear goals of a market economy and multiparty democracy. Reform of the labor market is essential to these efforts, the reform that will set wages and employment solely in the interests of efficiency, and leave social protection to the cash benefit system.

The labor market in socialist economies was traditionally plagued with grave rigidities: most importantly, workers enjoyed practically complete job security; firms were informally pressed, and even legally obliged, to hire; part-time and fixed-term employment were legally discouraged; hiring, reassigning within the firm, and dismissing on disciplinary grounds were excessively bureaucratic; both wage bills and wage rates were administratively regulated; and workers were entitled to many fringe benefits typically not found in market economies.

These rigidities produced what Vodopivec calls the full employment syndrome — a labor market characterized by inefficient labor allocation, suppressed work incentives, and inherent wage drift tendency. At the heart of this syndrome is the lack of appropriate mechanisms to enforce the exit of firms (workers) that results in a massive employment subsidization.

A key feature of the transition will be redundant labor and, almost certainly, significant unemployment, together with labor shortages for certain skills. The challenge for these economies will be to massively reallocate labor at the least social cost.

Active labor market policies will be important — not just income support schemes but policies that improve labor mobility and increase labor absorption. These economies must improve their ability to train and retrain workers and to do such things as help small businesses, improve schooling, link universities with businesses, and help with technology transfer.

To eliminate employment subsidies, argues Vodopivec, requires imposing lasting financial discipline, including transparent (individual) property rights, an unselective and transparent fiscal system, and a multiparty political system (to provide checks and balances for the ruling party and thus contain its ability to redistribute).

Vodopivec also recommends policies for job security, incomes policy, wage differentials, nonwage labor costs, and wage taxation.

This paper — a product of the Socialist Economies Reform Unit, Country Economics Department — is part of a larger effort in PRE to investigate the labor markets in socialist economies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact CECSE, room N6-045, extension 37188 (44 pages).

562. Anticipated Real Exchange-Rate Changes and the Dynamics of Investment

Luis Serven

Unanticipated changes in the real exchange rate affect investment through their impact on the desired capital stock, whose direction depends on a number of factors and is in general ambiguous. In contrast, anticipated changes can also have an important effect on the optimal timing of investment, in a direction that depends on the financial openness of the economy and on the import content of capital goods. This issue is explored using a simple macroeconomic model.

The impact of permanent real depreciation on a country's capital stock is uncertain. Whether total capital stock rises or falls depends on how depreciation affects aggregate demand, the real interest rate, and especially the import content of capital goods. In the long run, the capital stock can be expected to rise in traded goods and fall in nontraded goods.

Despite this long-run ambiguity, anticipated (as opposed to unanticipated) changes in real exchange rate have a predictable effect on the dynamics of capital accumulation. They provide an incentive for speculative reallocation of investment over time, so they can greatly distort the timing of investments.

In the framework Serven presents, the time profile of investment is related to how financially open an economy is and to the import content of capital goods.

When a real depreciation is expected, an investment boom is likely to develop if the import content of capital goods is high relative to the degree of capital mobility: the anticipated depreciation promotes flight into foreign goods. Conversely, with high capital mobility, the opposite investment pattern is likely to emerge, as the anticipated depreciation promotes flight into foreign assets.

In the first case, the investment boom will be followed by a slump when the depreciation actually takes place, as it amounts to removing a transitory subsidy to investment. In the second case, the predepreciation slump will give way to a boom, since the depreciation amounts to removing a tax.

Such a pattern could lead the uninformed observer to conclude that the real depreciation is "contractionary" in the first

case and "expansionary" in the second. In fact, the sharp change in the investment trend could largely reflect the elimination of the transitory (positive or negative) investment incentive. These speculative investment swings will be larger the smaller the adjustment costs associated with capital accumulation.

These results agree broadly with the experiences of Chile and Uruguay in the late seventies and early eighties. The exchange-rate-based disinflation attempted in both countries led to a real overvaluation and growing expectations of real depreciation. Chile — which had a relatively closed capital account and a high import content of investment — witnessed an investment boom. Uruguay, on the other hand, which is financially fairly open, experienced an investment slump.

Similar results apply to consumers' spending on durable goods. These spending fluctuations simply reflect changes in the optimal timing of consumption and investment — but they obviously have a strong destabilizing potential. This suggests the importance of real exchange rate stability to avoid persistent over- or undervaluations. When exchange rate action is justified, it should be undertaken immediately to prevent distortions in the intertemporal allocation of spending.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to study the response of private investment to macroeconomic adjustment measures. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Susheela Jonnakuty, room N11-039, extension 39076 (50 pages, with charts and figures).

563. Empirical Investment Equations in Developing Countries

Martin Rama

Investment decisions in developing countries face some additional constraints than in industrial countries. Analysts must consider such additional factors as financial repression, shortage of foreign exchange, lack of infrastructure, and significant economic instability. Rama suggests a method for improving empirical investment equations in developing countries.

Since the debt crisis, there has been increasing interest in the determinants of investment in developing countries. There is plentiful literature on the topic for industrial economies but existing studies on developing countries are scattered and few.

Rama examined those studies with an eye to answering two questions: Are the variables that influence investment decisions the same in developing as in industrial countries, or should other factors be considered because the macroeconomic setting is different? And what can be learned from the applied research that has been done on the subject?

After revisiting the theoretical debate, Rama presents an integrative analytical framework, including different empirical equations, that depend on the assumptions made about the economies' key features (such as market structure and credit rationing). He classifies 25 empirical studies on investments in developing countries, classifying them according to their chosen specification and comparing their estimates.

Rama concludes that investment decisions in developing countries are not necessarily based on the same variables as in industrial countries. Analysts must consider such additional factors as financial repression, shortage of foreign exchange, lack of infrastructure, and significant economic instability.

In general, the available empirical studies support these arguments somewhat, so their careful introduction into the theoretical models from which investment equation are drawn deserves further research. This is particularly true for the intertemporal aspects of analysis, restrained in Rama's analysis to a simple two-period framework.

With a few exceptions the available empirical studies are not satisfactory, Rama finds. The endogenous variable is seldom scaled, so it probably gathers a time trend. And some key exogenous variables — such as the user cost of capital, the upper bounds on credit, and the availability of foreign exchange — are measured in misleading ways. The measurement issue deserves more research.

Rama stresses the importance of the aggregation procedure when there is significant economic instability. Sudden and dramatic policy changes modify the relevant investment rule. By raising or reducing the share of firms that face credit or foreign exchange rationing, these changes prevent use of a representative-firm approach.

Finally, Rama proposes a method for dealing with the effects on private investment of the economic instability typical in most developing countries. Applied research would help decide whether the suggested procedure improves the econometric performance of empirical investment equations in developing countries.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to understand the behavior of investment in adjustment programs. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Emily Khine, room N11-067, extension 39361 (48 pages, including charts).

564. Costs and Benefits of Agricultural Price Stabilization in Brazil

Avishay Braverman, Ravi Kanbur,
Antonio Salazar P. Brandao, Jeffrey Hammer,
Mauro de Rezende Lopes,
and Alexandra Tan

The welfare gains from reducing risk through agricultural price stabilization are unlikely to be large relative to the welfare gains from price reform that reduces market distortions for the six agricultural commodities considered in this study.

In recent years, agricultural price stabilization policies have been recommended in Brazil as a way to reduce government intervention and open the sector for international trade without internalizing the instability of world prices.

The proposal discussed (and eventually implemented in 1987) was to establish a system of price bands around a moving average of past prices, with the government relying on stocks to defend the bands.

Braverman and his associates evaluated the "band proposal" for six commodities, using historical data and posing this question: what would have happened if price bands had been adopted in the past six to ten years (compared with free trade)? There were two major findings.

First, the implications of adopting a band-rule policy depend heavily on the specific characteristics of the commodities. The results suggest that:

• For edible beans, the band policy benefits producers. Risks associated with this crop are great and the efficiency cost of interventions is smaller than the benefits to farmers in reduced risk. The band rule will not stabilize producers' income, however, and will require an unreasonably high level of stocks.

• For corn, the risk benefits are low. The best alternative for the government may be free trade.

• For rice, free trade hurts producers because it destabilizes income and reduces its mean. But the efficiency cost of current policies (which protect producers) is large. The band rule reduces the cost of risk to producers significantly and its efficiency costs are relatively small.

• For wheat, the current situation is riskier than free trade and large deficits are incurred to support producer prices and to subsidize consumers. The inefficiencies caused by the band rule are larger than the value attributable to reducing risks.

• For cotton, free trade will increase risk. No calculations of the inefficiencies of current policies were made but other studies indicate that they are great.

• For soybeans, the band rule has virtually no effect on price instability, producer revenue, and producer surplus. The same conclusion on instability is seen for soy oil and soy meal.

Second, the welfare gains for risk reduction through agricultural price stabilization are unlikely to be large relative to the welfare gains from price reform that reduces market distortions for these six agricultural commodities.

More research is needed into the macroeconomic implications of price stabilization policies, particularly in countries with unstable but moderate rates of inflation, countries in which agricultural expenditures represent a large proportion of the budget.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to analyze the efficiency and equity implications of agricultural policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-035, extension 30464 (40 pages, including tables).

565. Issues in Socialist Economy Reform

Stanley Fischer and Alan Gelb

Fischer and Gelb define the main components of system reform programs aimed at transforming a socialist economy into a private market economy and sketch an illustrative schedule for such a program for a representative country. The important strategic choices, they say, arise from the interplay between economics and politics.

Fischer and Gelb examine issues involving the design and sequence of economic reform in formerly socialist economies that have made the political decision to move to a private market economy. They also examine the potential role of foreign countries in providing aid, technical assistance, and market access.

In economies that are actually or potentially unstable macroeconomically, the first priority is macroeconomic stabilization and measures to harden budget constraints and create an emergency social safety net.

At the center of the reform process are price reform, trade liberalization, enterprise restructuring, and privatization. Banking reform, training, and the development of other financial markets must begin immediately, but the ability of the financial system to allocate resources efficiently will remain limited until enterprise and price reform are sufficiently advanced.

In systemwide reform, the notion of sequencing should be replaced by that of packaging. A large number of interrelated reforms — including those needed to create an appropriate legal structure and develop the skills needed in a market economy — has to be put in place very early, although the speed of implementation will differ.

However rapidly the reforms are initiated, their completion — especially privatization — is bound to take many years.

This paper — a product of the Socialist Economies Reform Unit, Country Economics Department — is part of a larger effort in PRE to provide a framework for the reform of socialist economies and review experience in a comparative manner. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact CECSE, room N6-037, extension 37188 (45 pages).

566. Measuring Outward Orientation in Developing Countries: Can It Be Done?

Lant Pritchett

That alternative objective summary measures of outward orientation produce entirely different country rankings is probably not an astounding revelation. Trade regulations and barriers are generally complex legally and even more opaque in their actual administration. The hope that any reasonably straightforward summary measure could produce a "correct" ranking of countries has always been treated skeptically and — disappointingly — rightly so.

Pritchett tries to move debate on the empirical cross-country relationship between trade policy and economic performance back one step by asking the question. Can the economists' intuitive notion of outwardly oriented policy be captured empirically? Different authors have used different measures as proxies for trade policy stances and generally have come to similar conclusions: that outwardly oriented countries perform better.

Pritchett examines the relationship between four types of empirical measures of outward orientation across countries:

• Share of trade (or imports) in GDP, adjusted for the countries' structural characteristics or factor endowments.

• The average tariff and coverage ratio of nontariff barriers (NTBs).

• Measures of the deviation of countries' actual trade pattern from the pattern predicted from a model of resource-based comparative advantage.

• A measure of real price distortions.

Pritchett finds that these promising candidates for measuring outward orientation are nearly completely unrelated in a cross-country data set. He concludes that he cannot glowingly recommend one measure over another. Nor can any of the candidates be rejected outright. The absence of correlation among them he skeptically interprets as an indictment of each.

But that one (but *only* one) of the measures best captures outward orientation cannot be rejected.

He concludes that no reliable, robust estimate of the impact of general outward orientation on economic performance (economic growth or expert performance) is likely to be possible from cross-country data. This is not to say that particular variables, such as the price distortion variable, won't perform well (have a high t-statistic) in explaining cross-country variation in economic performance. But inferring that that type of empirical result is due to the effects of an outward-oriented policy stance requires additional evidence establishing a link between the measure and policies.

Large changes in the NTB coverage ratio in a particular country are more likely to indicate a movement toward import liberalization than similar differences between countries at a point in time, but those relying on the NTB coverage ratio as the key indicator of liberalization must recognize the lack of supporting evidence linking the coverage ratio to observable trade outcomes.

The administrative and legal nature of NTBs makes them an easily monitorable indicator on which to base conditionality in liberalization programs, but the generally discretionary nature of NTB implementation must be recognized, so that the removal of a particular type of legal restriction not be considered synonymous with increased outward orientation.

Data and programs are available from the author.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to examine the impact of trade policy on overall economic performance. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Karla Cabana, room N10-037, extension 37947 (52 pages).

567. Macroeconomic Management and the Division of Powers in Brazil: Perspectives for the Nineties

Antulio N. Bomfim and Anwar Shah

Brazil's new federalism has limited, but not imperiled, the scope of fiscal policy as a stabilization tool. But the federal control over monetary policy has improved.

The federal authority for macroeconomic management in Brazil changed profoundly with the institutional changes that culminated in a new federal constitution in October 1988.

Bomfim and Shah analyzed the implications of the new fiscal arrangements for the federal exercise of macroeconomic policies.

The literature on fiscal federalism stresses that stabilization policies are best carried out by the federal government. So it is interesting to find out to what extent the federal control over macroeconomic management gets diluted in a highly decentralized federation such as the one that now exists in Brazil.

The authors found evidence that the new federalism has limited, but not imperiled, the scope of fiscal policy as a stabilization tool. On the other hand, federal control over monetary policy has improved.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to reform public sector economic management in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (40 pages).

568. Higher Wages for Relief Work Can Make Many of the Poor Worse Off: Recent Evidence from Maharashtra's "Employment Guarantee Scheme"

Martin Ravallion, Gaurav Datt, and Shubham Chaudhuri

Guaranteed employment can be valuable insurance against poverty. But the recent experience in Maharashtra suggests that raising the wage rate when you don't have the budget to pay for it is not in the interests of all the poor. Some get higher pay, but others must go without relief work.

Relief work schemes provide well-targeted relief to poor people, and valuable insurance against poverty. But their success may depend on the scheme's design — particularly the wage rate and coverage offered.

The most famous and one of the most successful of these programs is the Employment Guarantee Scheme (EGS) that has been in operation since the mid-1970s in the Indian state of Maharashtra. In a typical year it provides about 100 million person-days of unskilled employment on rural infrastructure projects, at an average cost of about one dollar a day in the late 1980s. The demand for EGS work fluctuates enormously from year to year (depending on the vagaries of the monsoon) and across seasons in a given year.

In mid-1988 the piece rates paid to workers on EGS doubled, in line with new statutory minimum wage rates for agricultural labor. Ravallion, Datt, and Chaudhuri investigated the effects of this sudden increase on the scheme's cost, the workers' wages, and their ability to find work when needed.

They found that the impact of the wage increase on real cost was dampened by inflation, adjustments in the composition of work, and, most important, by falling employment. The aggregate real cost per month fell after the increase in wage rates. This partly reflected good monsoons but, controlling for monsoons, there are signs that falling employment reflected rationing; some poor people who wanted relief work could not get it.

Ravallion, Datt, and Chaudhuri found that EGS met less than half of the demand for work after the wage increase and that almost all of the fall in EGS employment was from rationing. The effects of the initial wage increase on the poor are ambiguous: some could get higher wages but others went without desired relief work.

The concept of assured employment, albeit at a low wage, can be attractive in terms of poverty alleviation: it generally allows scarce resources to go to the poorest first (at least those able to work), it maximizes the insurance benefits to the poor, and it helps undermine some of the possibilities for corruption on such schemes — and for exploitation in labor markets and tenancy contracts.

But achieving these benefits with limited budgetary resources requires a low enough wage rate. The recent experience in Maharashtra suggests that imposing a higher wage rate when you don't have the budget to pay for it is not in the interests of all of the poor.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to research the performance of poverty alleviation schemes and the implications for policy design. Copies are available free from the World Bank, 1818 H Street NW, Wash-

ington DC 20433. Please contact Cicely Spooner, room N8-039, extension 30464 (36 pages).

569. Domestic Purchase Requirements for Import License Allocations in Mali

Wendy E. Takacs

To obtain import licenses for sugar and tea, prospective importers in Mali were required to purchase a certain amount of domestic output. The efficiency of this kind of arrangement relative to that of a direct trade restriction such as a tariff depends on the policy's objective and whether the protected industry is competitive or a monopoly.

The government of Mali, as part of its trade liberalization program, substituted an import licensing system for the state trading agency that had held import monopolies on a number of products. To get licenses to import sugar and tea, prospective importers were required to purchase given amounts of domestic output. The volume of imports was thus "linked" to domestic output of the imported products.

Takacs investigates the economic impact of these linking arrangements under two domestic market structures: perfect competition and monopoly. The arrangements have an effect equivalent to that of a tariff when the tariff revenue is transferred to the domestic industry as a subsidy. The cost of these linking arrangements to the country imposing them may be greater or smaller than the cost of tariffs, depending on the policy's objective and the structure of the protected industry.

If the protected industry is competitive, linking arrangements are less costly than tariffs if the objective is to increase domestic production or maintain a given degree of self-sufficiency (defined as maintaining a particular ratio of imports to domestic production). The reverse may be true if the protected market is a monopoly.

Price controls on the products subject to linking arrangements dilute the effectiveness of the arrangements and cause disequilibrium in the market between distributors and consumers. Removing price controls before the linking arrangements in a liberalization program would drive up prices for both consumers and producers, provide false signals, and possibly increase the costs of adjusting to liberalization.

This paper — a product of the Trade Policy Division, Country Economics Department — was prepared as background material for the joint UNDP/World Bank Trade Expansion Program, which provides technical and policy advice to countries wishing to reform their trade regimes. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila Fallon, room N10-035, extension 37947 (25 pages, including figures).

570. Debt Concentration and Secondary Market Prices

Raquel Fernandez and Sule Ozler

The more concentrated the debt holdings in large money center banks, the higher the secondary price of that debt.

Using a model that distinguishes between large money center banks and smaller regional banks, Fernandez and Ozler show that the percentage of a country's debt held by the large banks affects the secondary market price of that country's debt: the higher the concentration of the debt, the higher the secondary market price.

They also show that if debt is freely traded in the secondary market, the entire stock of debt will not eventually end up being owned by the large banks.

Their empirical analysis incorporates several potential determinants of secondary market prices: variables associated with a country's economic performance, variables that can be associated with the creditor country's regulatory structure, and the concentration of debt in the hands of the largest U.S. banks.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to analyze the benefits and costs of voluntary market-based debt and debt service reduction operations. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 31047 (47 pages, including tables).

571. Credit's Effect on Productivity in Chinese Agriculture: A Microeconomic Model of Disequilibrium

Gershon Feder, Lawrence J. Lau, Justin Y. Lin, and Xiaopeng Luo

Not all farmers — sometimes only a minority — are constrained in their farming operations by inadequate credit. And part of formal credit is diverted to consumption so the effect on output of greater supplies of formal credit might not be as large as one would expect if one assumed that it would all be used productively.

Many government programs want to provide more credit to the farm sector to increase agricultural productivity. If the marginal effect on productivity is small, those resources might be put to better use elsewhere.

Feder, Lau, Lin, and Luo conducted an econometric analysis of the effect of credit on output supply which recognizes that credit markets are not necessarily at equilibrium — so that credit rationing (with unsatisfied demand) and nonborrowing (when credit could be available) are both possible. Only about 37 percent of the farmers in the study area were constrained by inadequate formal credit. Informal credit sources provided funds for specific non-agricultural activities that were not fungible.

The results indicate that one additional yuan of liquidity (credit) yielded 0.235 yuan of additional gross value of output. These results suggest that for the area of China covered in the study, a good part of the short-term credit may actually be used for consumption and investment. Indeed, medium- and long-term formal credit is practically nil among the agricultural households in the study area. Rolled-over short-term credit is sometimes used for small-scale investments. The diversion of short-term credit for farm investment is about 40 percent for an average household in the study area. This implies that almost a third of the formal credit is used for consumption (of current goods or durables).

What conclusions does this suggest in evaluating the probable effect of expanding agricultural credit? First, not all farmers, and sometimes only a minority, are constrained in their farming operations by inadequate credit. And second, greater supplies of formal credit will be

diverted in part to consumption, so the likely effect on output will be smaller than what one might expect if all funds are assumed to be used productively.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to evaluate agricultural credit policies and review institutional designs so as to formulate better guidelines for Bank activities in rural credit. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-035, extension 30464 (27 pages).

572. Capital Positions of Japanese Banks

Edward J. Kane, Haluk Unal, and Asli Demirgüç-Kunt

Japanese banks are highly capitalized in terms of market value. Here is a method for testing hypotheses about determinants of two types of hidden capital in Japanese financial markets.

Japanese banks are promising sources of capital for developing countries wishing to finance a balance of payments gap. Kane, Unal, and Demirguc-Kunt show that Japanese banks are highly capitalized in terms of market value; much of their capital is "hidden capital," the divergence between accounting and stock market estimates.

Kane and associates developed a method for testing hypotheses about two types of hidden capital: the misvaluation of on-balance-sheet items (post-acquisition gains and losses that, although they remain unbooked, are bookable upon the sale of the item under General Accepted Accounting Principles (GAAP)) and intangible values that GAAP currently designates to be unbookable off-balance-sheet items.

They construct a model that explains changes in both types of capital functions of holding-period returns earned in Japan on stocks, bonds, yen, and real estate. They apply the model to annual data for 1975-89 and a four-class size/charter partition of the Japanese banking system. For each type of hidden capital and each class of bank, the model develops estimates of the stock market, interest rate, foreign exchange, and real estate sensitivities of returns to bank stockholders.

Only the stock market sensitivities prove significant, at 5 percent. Time-series regressions show that the large Japanese banks have developed stock market betas over two and that the value of the bank's beta has come to increase with measures of its size and accounting leverage.

Future research will investigate the sensitivity of these results to different ways of pooling data from individual banks and to more sophisticated methods for estimating various parameters. They also plan to extend the analysis by imbedding it in a model of how variations in bank-customer contracting arrangements in Japan affect the returns bank stockholders can earn.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to study alternative sources of external finance. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 33730 (35 pages).

573. Malaysian Labor Markets Under Structural Adjustment

Dipak Mazumdar

In a generally healthy economy, Malaysia's labor market suffers some structural problems: steep wage-seniority scales, unemployment among secondary-school leavers, and an almost bizarre constancy in the relative differences in earnings (and ever wider differences in per capita income) between states — which suggests a serious problem in the sharing of fruits of economic growth through internal migration of the factors of production.

Malaysia's sustained growth in the 1970s was boosted by windfall gains during two oil price hikes plus a commodity boom. Oil and commodity prices fell in the 1980s and Malaysia, an oil exporter, bungled into a rather severe depression in 1985-86. But it recovered quickly, to the surprise of some — and growth resumed in 1987.

The events that led to the recession and quick turnaround are a Southeast Asia prototype. Mazumdar analyzes the key relationships in this cyclical behavior. He then focuses on long-term labor market issues of interest during the economy's 20-year transformation. He concludes:

Events in Malaysia differed in important details from the standard sequence in "Dutch disease" models. The real exchange rate appreciated not because of more spending but because of the inflow of foreign capital to support the government's budget deficit. And the increase in average wages in the period leading up to the recession was not corrected with the rise in the domestic exchange rate (the ratio of the prices of nontradables to tradables) in a fully employed economy.

Wages increased more than labor productivity did at a time when employment growth had slowed and the rate of unemployment had risen. This perverse behavior may be attributable to certain East Asian labor market institutions — notably steep wage-seniority scales and the attachment of workers to firms after a period of service.

Rising labor costs were only part of the problem of rising costs before the recession. The whole package of fiscal, monetary, and exchange rate policies — together with labor market behavior — led to the recession.

And the recession was short-lived — no more than two years long. Factor markets were highly flexible: wages, interest rates, and exchange rates all drifted downward. This "collapse" of factor markets fueled the recovery when favorable trends reasserted themselves in Malaysia's external markets.

Mazumdar further concludes that:

- Plantation wages (especially rubber) lagged somewhat behind wages in manufacturing but the overall growth rate of real wages in the formal sector was positive, before the slowdown of the 1980s.
- Paddy farmers and smallholder cash-crop growers had significantly lower earnings in 1973 than nonagricultural employees (rural and urban) and estate employees — and their relative position has declined even further.
- The tertiary sector increased its share in total employment from 36 (1970) to 49 (1980) to 55 percent (1987), and government employment accounted for only part of this growth.
- The self-employed are only a small

part (15 percent) of the work force in manufacturing but more than a third of the total in agriculture and distribution.

• Growth in white-collar jobs has not kept pace with growth in education, so there has been a problem of unemployment among the educated. Not all secondary-school leavers would accept blue-collar jobs. This type of white-collar unemployment is structural — not responsive to changes in demand, unless as in the latter half of the 1970s the boom is sustained and intense (perhaps favoring the white-collar sector).

• Relative earnings for women improved in striking ways in 1970-87.

This paper — a product of the Studies and Training Design Division, Economic Development Institute — is part of a larger effort in PRE to understand the role of labor markets in the process of structural adjustment of the economy. The paper is one of the country studies prepared for the project on "Labor Markets in an Era of Structural Adjustment." Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Marshall Schreier, room M4-013, extension 36432 (72 pages, including figures and tables).

574. Public Policies and Saving in Developing Countries

Vittorio Corbo and Klaus Schmidt-Hebbel

Developing countries can increase their national saving rate best by increasing government saving. The most effective way to increase national saving is through a permanent tax hike, a cut in current public spending, and a macroeconomic framework in which inflation is low and incentives are predictable.

Corbo and Schmidt-Hebbel analyze the effectiveness of public policy in raising saving in developing countries, drawing on estimates of consumption functions for 13 developing countries. First, they provide evidence from time-series and panel data on how liquidity constraints affect consumption functions. This suggests that a rise in public saving does not produce an equal reduction in private saving.

Second, they present direct evidence of the link between private consumption and government saving — based on a more general consumption specification implemented for 1980-87 country panel data. These show that indirect effects of public policies on private saving — through changes in domestic inflation and real interest rates — are negligible. But cuts in current public spending and current tax hikes significantly affect private savings.

Increasing public saving by cutting current-period public expenditures by $1 reduces private saving by only 16 to 50 cents. Permanent cuts in public spending reduce private saving by 47 to 50 cents.

Not surprisingly, a higher permanent tax hike has less of an effect on private saving than a transitory tax hike. For each $1 increase in permanent taxes, private saving declines only 23 to 26 cents. Increasing only current-period taxes reduces private saving between 48 and 65 cents.

Increasing taxes and improving tax compliance are the most efficient ways to reduce public deficits when traditional tax revenue is low and inefficient tax levies (such as the inflation tax) are high and widespread. Finally, public policy can help raise private savings and make their use more efficient by providing a macroeconomic framework in which inflation is low and incentives are predictable.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to improve the understanding of the transition from adjustment to growth. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Susheela Jonnakuty, room N11-039, extension 39074 (29 pages).

575. Household Saving in Developing Countries: First Cross-Country Evidence

Klaus Schmidt-Hebbel, Steven B. Webb, and Giancarlo Corsetti

Disposable household income is the major factor affecting the savings rate. Households save more of their income when that income is higher and when it is growing faster. They save less when they start the period with greater liquid wealth.

Schmidt-Hebbel, Webb, and Corsetti use time-series household data from 10 developing countries for which at least eight consecutive years of data exist, to test several hypotheses about saving behavior.

The surprisingly strong results of this study — considering the few countries in the sample — verify the value of using household data, but results should be checked with a larger sample when more data become available.

The authors test how household saving in developing countries responds to: the level of disposable per capita income; the growth rate of disposable income and its deviation from trend; real liquid wealth at the start of the period; the real interest rate; the inflation rate; foreign saving; government transfers to households; and some demographic variables. The results suggest the following:

• Income and wealth explain most of the variation in household savings rates. Households save more of their income when that income is higher and when it is growing faster.

• They save less when they start the period with greater liquid wealth, although wealth reduces saving less than one-for-one. (A one-percentage-point increase in the money supply as a share of income reduces the saving rate an average of one-fifth of a percentage point.)

• Real interest rates do not encourage saving in the countries in this sample. This is particularly true when one controls for liquid wealth. Households with substantial wealth are likely to reduce their saving rate in response to higher interest rates because in their case the substitution effect of higher interest rates is dominated by the wealth effect.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to study the macroeconomic determinants of growth in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Emily Khine, room N11-069, extension 39361 (26 pages).

576. Lessons from Tax Reform: An Overview

Wayne Thirsk

More administrative simplicity (making avoidance and evasion difficult) and horizontal equity (uniformly imposed across units at the same income level) are strong

selling points for tax reform. Harder to sell are more economic efficiency (not well understood by the public) and vertical equity (a matter of personal judgment).

Thirsk identifies general lessons about tax reform, drawing on ten developing countries' experience: Columbia, Indonesia, Jamaica, Korea, Mexico, and Turkey (which have carried out comprehensive tax reforms) and Bolivia, Malawi, Morocco, and Zimbabwe (which are currently reforming their tax systems).

Research for each country study focused on which policies and procedures worked reasonably well (or didn't), using four standard public finance criteria: revenue adequacy, allocative neutrality, equity, and the efficiency of tax administration.

The goals of tax reform are more modest but realistic than they once were. Simpler tax rules ignore the fine distinctions that equity demands but serve the broader interest of tax equity by encouraging fuller compliance with tax laws and making their evasion more difficult. Less emphasis is placed on redistributing welfare through the tax system and more on achieving the goals of revenue adequacy, economic neutrality, and simplifying the tax system to make it conform to administrative capabilities.

Common elements in successful tax reform include:

- A clear perception of the flaws in tax systems before reform and a well-thought-out program of action to correct them.
- The support of major policymakers and technocrats.
- Careful, systematic implementation and monitoring.
- Minimal use of tax incentives and more reliance on broader, simpler tax bases on which lower marginal rates are imposed.
- Efforts not only to avoid raising taxes on the poor but to reduce their tax burden.
- Avoidance of procedural demands that overwhelm tax administration capabilities, and investment of more resources in training and in upgrading administrative performance.
- Attention to revenue adequacy and to how different components of the tax system interact.
- Direct targeting of tax measures mainly, if not exclusively, to their intended objectives.
- Emphasis on the importance of horizontal equity, neutrality, and simplicity.
- Recognition that accepting crude justice in taxation is better than fine-tuning in the search for the unattainable goal of perfect justice.

Successful tax reforms share common structural elements. For indirect taxes, countries often use value-added tax to replace a hodge-podge of commodity taxes, thus producing more revenues and fewer disincentives for exports and investment. Typically, foodstuffs are exempted to protect the poor, excise taxes are redesigned to fall more heavily on luxury items, and trade and domestic taxes are better coordinated.

Personal and corporate income taxes are typically modified so lower tax rates are applied on a broader base. Personal income taxes are expanded so that fringe benefits are more heavily taxed, deductions and exemptions are consolidated, and more use is made of presumptive levies for certain hard-to-tax groups. No trend is discernible toward replacing income taxes with cash-flow or expenditure-related taxes.

To curb corporate tax evasion and achieve more uniform tax burdens, some countries employ minimum taxes on a company's net worth.

Many elements of capital income escape taxation altogether or are only partly captured in the tax base. Few countries successfully tax capital gains, for example. And interest income is often exempted or taxed at a low rate out of concern for capital flight.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to document and understand how developing countries may improve the performance of their tax systems. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (52 pages).

577. Africa's Rising Inflation: Causes, Consequences, and Cures

Ajay Chhibber

Is there a link between devaluation and high inflation? It depends on accompanying monetary and fiscal policies and the presence of parallel markets. An open capital account would curtail fiscal profligacy and provide price stability without jeopardizing growth.

Chhibber empirically assesses inflation in Africa using various price indicators and examines the major instruments of anti-inflationary policy in Africa. He sets up a generalized model of inflation and examines four special cases of that model, representing four prototypical African policy regimes:

(1) Countries with pegged exchange rates, an open capital account, and no price controls (the 13 countries of the CFA franc zone).

(2) Fixed-but-adjusting exchange rates, with a closed capital account and selective price controls (as in Zimbabwe, Malawi, and Kenya).

(3) Fixed-but-adjusting exchange rates with widespread parallel markets, a closed capital account, and selective price controls (as in Ghana, Nigeria, Tanzania, and Zambia).

(4) Dual exchange rates and a closed capital account, but with extensive, effective price controls (as in Algeria and Ethiopia).

Drawing on results from empirical studies, Chhibber focuses especially on the interaction of exchange rate policy and inflation. He concludes, among other things, that:

- At first glance, there seems to be a strong correlation between exchange-rate regimes and inflation. Countries with floating exchange rates (or auction systems) seem to have experienced higher inflation and countries with fixed exchange rates lower inflation. But the story is more complex than that.
- In such countries as Ghana, Sierre Leone, Uganda, and Zambia, high inflation prevailed before exchange reforms, even when the exchange rate was fixed. High inflation rendered the official exchange rate irrelevant, and parallel markets emerged. Adjusting the official exchange rate may actually have lowered inflation in Ghana by reducing fiscal deficits. High fiscal deficits, financed primarily by creating money, were the underlying cause of inflation.
- The reason for lower, stable inflation in countries with pegged exchange rates is the underlying monetary and financial arrangements, not the fixed exchange rate. The open capital account between countries of the franc zone ensures that the money supply is not a policy

variable. Domestic expansion of credit affects the balance of payments but does not lead to inflation and money expansion.

• The key to price stability lies in providing checks on large fiscal deficits and noninflationary mechanisms for financing them. In principle, this can be done through responsible spending and revenue policies. In practice, it requires institutional arrangements that restrain profligate spending. An open capital account is one such mechanism (witness Indonesia). Another is effectively to separate monetary and fiscal policy, either by joining a monetary union (like the CFA franc zone) or by establishing and managing a central bank with the (fiercely protected) independence of the U.S. Federal Reserve System and with a status equal to the judicial system.

• The benefit of joining a monetary system is price stability — but the costs are high. The best option is to control fiscal and monetary policy without the rigidity of a fixed, pegged exchange rate. The path that countries such as Indonesia have followed — through the open capital account — provides price stability without jeopardizing growth.

This paper — a product of the Office of the Vice President, Development Economics — is part of a larger effort in PRE to study inflation and price decontrol in Africa. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Bilkiss Dhomun, room S9-041, extension 39413 (26 pages).

578. The Bank's Use of Technical Assistance for Institutional Development

Beatrice Buyck

Whenever the Bank identifies shortcomings in institutional capability, technical assistance is automatically assumed to be the appropriate response. But technical assistance has, and will continue to have limitations — and there are alternatives.

Technical assistance (TA), including project-related training, is the principal instrument the Bank uses to promote institutional development (ID).

Buyck reviews trends in ID-related TA for FY1982-88 and examines why there is little evidence of improvement in its use, despite the recommendations in many past studies and reviews. She identifies the minimum requirements for successful ID-related TA, and gauges whether the Bank is equipped to take on the challenge of improving it, or should consider other ways to promote ID.

She contends that the Bank labors under serious built-in handicaps as a supplier of ID-related TA. These include:

• The neglect of in-depth country knowledge and a poor institutional memory, both attributable to the frequent rotation of staff.

• A high degree of centralization in the control of operations from Washington.

• The priority the Bank attaches to capital lending and to the preparation of projects rather than their supervision.

• The high cost of Bank TA to some borrowers, compared with TA extended by many bilateral donors on a grant basis.

• The Bank's blueprint approach to project design and implementation.

• The absence of systematic, explicit attention to the issue of government commitment in Bank work, a prerequisite for successful ID-related TA.

She also argues that compared with traditional Bank projects and economic and sector work, ID is a relatively new and particularly complex area of Bank work. As a result, the body of knowledge is still quite limited, and there are few best-practitioners.

She suggests that the Bank be more discriminating in its use of ID-related TA, limiting it to cases where the government's commitment is clearly demonstrated and where there is an institutional base on which to build.

But the Bank should also consider alternative routes to ID. When shortcomings in institutional capability are identified, TA is automatically assumed to be the appropriate response. But excessive reliance on TA to solve ID problems raises false expectations. TA has and will continue to have its limitations.

In countries where there is still a genuine demand for Bank-financed ID-related TA, several things can be done to improve the Bank's performance. Buyck argues that it is unrealistic to expect a change in the Bank's lending policies and practices, and a substantial increased resource allocation for TA. In the absence of such changes, these are some of the actions she suggests:

• Country-wide ID strategies should be developed.

• Projects should be designed in a participatory manner responding to genuine needs and capacity of the borrower.

• Institutional analysis of the recipient agency is needed, including country commitment.

• Projects should be designed for flexible implementation, with clear objectives. A series of verifiable performance indicators should be defined.

• More thought should be given to the packaging and delivery of ID-related TA — for example, by integrating short-term consultants and long-term technical assistants.

• Operational staff should systematically compile and exchange information on consultants used for ID-related TA, including frank evaluations of their performance.

• Practical guidelines and project implementation manuals should be prepared for Bank staff working on these areas.

• More use should be made of the Bank's field offices. For example, to list local consultants, monitor the performance and progress of ongoing projects, and coordinate TA financed by the Bank with that provided by bilateral donors.

• Cross-fertilization and dissemination of best practice are needed for staff working on these areas.

• The conceptual and methodological base for ID-related TA needs to be expanded.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — was prepared as background for the division's December 1989 conference on institutional development. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ernestina Madrona, room N9-061, extension 37496 (89 pages).

579. Chile's Experience with Stabilization, Revisited

Vittorio Corbo and Andrés Solimano

The cost of stabilization in chronic-inflation countries is high, whether it is paid up front (with fiscal shock) or delayed (in exchange-rate-based stabilization). And eliminating the fiscal deficit is a necessary but not a sufficient condition for control-

ling inflation. The breaking of inertia calls for a coordination device in the transition toward price stability

Corbo and Solimano evaluate Chile's stabilization policies since the early 1970s, examining four episodes:

- The high inflation at the beginning of the military regime, when inflation was close to 800 percent a year.
- The orthodox stabilization program of 1975.
- The exchange-rate-based stabilization of February 1978-June 1982.
- The post-1984 adjustment period with a large real devaluation and moderately low inflation.

The last 15 years of Chile's economic history provide some important lessons on stabilization. Corbo and Solimano learned that:

- Eliminating the fiscal deficit is a necessary but not a sufficient condition for controlling inflation. In economies with a long history of inflation, credibility problems, and indexation schemes (de facto or de jure), inertia is likely to make inflation stabilization costly without income policies to solve the coordination problem implicit in guiding individual wage and price setters toward a low-inflation equilibrium.
- If the exchange rate is used as an anchor in a stabilization program, other nominal prices should be free or fixed with reference to the exchange rate. Otherwise, key relative prices such as the real exchange rate and the real interest rate could move into disequilibrium positions, making the macroeconomic situation unsustainable. The dynamics of disinflation matter a great deal in the design of the stabilization plan. The convergence toward a low-inflation equilibrium could be a slow process.
- The cost of stabilization is high, whether it is paid for up front (as it was in the 1975 program, when real wages, output, and employment were cut) or when it is delayed (as it was after Chile's boom in the crisis of 1982-83, when the current account deficit had to be corrected). Different programs (fiscal shock versus exchange-rate-based stabilization) distribute the costs of stabilization differently over time.
- The post-1984 experience illustrates that well functioning goods markets, a competitive real exchange rate, restoration of basic macroeconomic balance, and favorable terms of trade contributed significantly to restoring non-inflationary growth in Chile.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to understand stabilization policies in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Emily Khine, room N11-061, extension 39361 (52 pages).

580. Do Natural Resource-Based Industrialization Strategies Convey Important (Unrecognized) Price Benefits for Commodity-Exporting Developing Countries?

Alexander J. Yeats

Because of a relative shift from primary commodity exports to more processed commodities between the 1960s and the 1980s, most developing countries have experienced less instability in export earnings for agricultural materials, ores, and metals — and more favorable long-term price trends.

Developing countries have long had two main objectives in terms of commodity exports: to reduce instability in exporters' earnings and importers' prices through international (buffer stock) agreements and to encourage more processing of domestically produced commodities by developing countries.

Little attention seems to have been paid to possible connections between these objectives. If processed commodities are traded in markets that are generally more stable, for example, and if these items experience more favorable longer term price trends, might a natural resource-based industrialization strategy not convey important (unrecognized) price benefits for commodity-exporting developing countries?

And if a significant number of developing countries are shifting their composition of exports toward processed commodities — and if the markets for these items are less unstable — could this not alter the priority attached to negotiating commodity price stabilization agreements?

Using the World Bank's commodity-processing classification scheme, Yeats shows that a major structural shift in commodity trade occurred between 1965 and 1987. Almost all regional groups of developing countries shifted from primary commodity exports to more processed commodities — except for foodstuffs — and this change was reflected to varying degrees in all major developed-country import markets.

But the developing countries actually responsible for the further processing (such as the Asian NICs) were often not major producers of the primary (unprocessed) commodity. This suggests that internal constraints on commodity processing may often be more important than such external barriers as escalating tariffs.

The shift has generally reduced instability in export earnings for agricultural materials, ores, and metals — and to a lesser extent for foodstuffs — and has resulted in more favorable long-term price trends.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to analyze and predict important structural changes in world trade as well as to identify factors affecting developing countries' export earnings. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Jean Jacobson, room S8-037, extension 33710 (30 pages).

581. How Successful is World Bank Lending for Structural Adjustment?

Patrick Conway

For a sample of 75 countries during the period 1976-86, there is a significant association between participation in a World Bank adjustment lending program and more rapid economic growth, a more positive current account as a percentage of gross national product (GNP), and a higher rate of domestic inflation.

To measure the effectiveness of the World Bank's structural adjustment programs, Conway examines the data on actual economic performance for 75 countries for the period 1976-86.

He finds a clear association between participation in a World Bank adjustment lending program and cross-country differences in economic performance and policy. Countries that participated in ad-

justment lending programs tended to have the following characteristics, compared with countries that did not participate in such programs:

- More rapid economic growth
- More rapid inflation
- A less negative current account balance as a percentage of GNP
- Deeper financial sectors
- A lower ratio of current government spending to GNP
- Depreciation of the real exchange rate.

The first three indicators reflect differing performance; the second three, different policy mixes. In other words, the countries have not benefited merely by increased financing at the margin but have also undertaken significantly different economic policies.

Conway speaks of the association and correlation, not causes. No components of adjustment lending programs are singled out for praise or blame. The atheoretic methodology he uses does not identify causal links between bank adjustment programs and these measures, and provides no means of separating the effects of Bank lending from other factors. The adjustment lending programs were often concurrent, for example, with IMF stabilization policies, so to that extent the correlations are measures of the joint impact of the two.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to measure the effectiveness of structural adjustment efforts, especially trade reform, in developing countries. It includes both this empirical analysis and other research identifying possible causal links between policy and performance. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila Fallon, room N10-035, extension 37947 (31 pages).

582. Adjustment Programs and Bank Support: Rationale and Main Results

Vittorio Corbo and Stanley Fischer

Adjustment should begin with policy and institutional reforms to deal with the ultimate causes of any macroeconomic crisis a country is experiencing. Only when progress has been made in reducing inflation and fiscal and balance of payments deficits should other structural reforms begin — of the public sector, trade and competition, the financial sector, and the labor market.

Corbo and Fischer review the rationale for programs and then evaluate the design, implementation, and effectiveness of Bank-supported adjustment programs. Among lessons they draw from this review of the programs are the following:

- In countries experiencing acute macroeconomic imbalances (high fiscal deficits, balance of payments crises, and high open or repressed inflation), adjustment should start with policy and institutional reforms to deal with the ultimate causes of the macroeconomic crisis. Once progress has been made in reducing inflation and the fiscal and balance of payments deficits, other structural reforms aimed at improving resource allocation and achieving sustainable, equitable growth should be tried (particularly reform of the public sector, trade and domestic competition, the financial sector, and the labor market).
- The Bank can help adjustment by giving both policy advice and finance and by mobilizing other sources of finance.
- Adjustment lending has a positive effect on growth, constant-price export rates, and saving rates, and a negative effect on the investment ratio. In the short run it does not appear to affect systematically changes in living conditions.
- The implementation rate of programs increased in the 1980s, both for countries that received adjustment loans since the early 1980s and for those that started more recently. Implementation rates are lower for countries with higher rates of inflation or that suffered heavier negative external shocks. Successful stabilization and appropriate adjustment to external shocks (including contingency financing) increase the implementation rate.
- To be successful, an adjustment program must be owned by the government. External financing alone won't work. It is important to diagnose the country's development problems and to build a consensus around the adjustment program.
- Political support for stabilization is more likely when the government actively explains the source of the problems the program addresses, how it plans to tackle them, why this is the best option, and how people will benefit from the new policy environment. Awareness of the economic problems that motivate the decision for reform is strongest at the beginning — so prompt implementation usually increases the chance of political support.
- Adjustment usually calls for reducing public spending but it is important to strengthen public institutions through improved policies, organization, and management.
- The ultimate success of adjustment depends not only on getting the right policies in place but on increasing investment — including efficient public investment, saving, and growth. Public policy can contribute to these objectives by mobilizing savings and providing a macroeconomic framework that supports investment and efficient growth.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — was prepared for presentation at the Conference on Policies for the Recovery of Growth: Adjustment Lending Revisited, held at the World Bank on September 13-14, 1990. It is part of a larger effort in PRE to improve the understanding of the role of policies in economic performance. When the first draft was written, Fischer was Vice President, Development Economics and Chief Economist of the World Bank. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Lu Oropesa, room N11-035, extension 39075 (36 pages).

583. World Bank Lending for Education Research, 1982-89

Marlaine E. Lockheed and Alastair G. Rodd

Since 1982 about $98 million — 2.2 percent of Bank lending for education, in 116 projects — has been allocated to research. But many Bank-financed educational research components are not completed, or if completed are not widely available — or even listed. And few (5.6 percent) measure educational outcomes.

Research on education is useful for policy change, helps build national research capabilities, and yields information on interventions of use to others — borrowers and donors.

But many Bank-financed educational research components are not completed, or if completed are not widely available, and few measure educational outcomes.

In taking stock of research components in education projects, J.P. Tan (1982) found that 122 Bank projects in education (1972-82) contained 272 studies. Tan noted that these studies were seldom available to audiences beyond their original sponsors and were often not available even to them, and that many planned studies were never initiated or completed. Many of those studies were longitudinal in design so some thought the attempt to identify completed research may have been premature.

Lockheed and Rodd reviewed education studies (1982-89) and traced the completion status of studies that were incomplete before 1982. They found that:

- Of 146 Bank education projects initiated since 1982, 116 included research components with 436 identifiable, planned studies. These 116 projects were supported with loans and credits of about $4.5 billion, of which about $98 million (or 2.2 percent) was allocated to research.
- Research as a percentage of total loan commitment declined sharply from 1982 to 1989.
- Of the 436 planned studies, only 184 (42 percent) were completed, 84 were available through Regional Information Centers, and only 5.6 percent had anything to do with assessing educational outcomes.
- Anecdotal evidence suggests that research components have often been included as a form of "slush fund" to provide a financial buffer for other areas, drawing down resources available for study activities. Similarly, studies are included for political reasons, to develop in-country discussions on divisive issues or to resolve policy negotiation deadlock. Few studies enhance domestic research capacity.

Lockheed and Rodd conclude that:

- More attention should be paid to the design and implementation of research components in education projects, with specific emphasis on institutional weaknesses.
- Freestanding educational research projects should be considered wherever possible (usually in large countries).
- The Bank should develop a training program for operational staff to design studies with appropriate methodologies and which develop domestic research capacity.
- Information on studies should be more accessible. All data and documents about studies should be sent to Regional Information Centers, which should provide a list of information received to the Education and Employment Division, Population and Human Resources Department. Project completion reports should list studies in bibliographies.

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to build education research and assessment capacity in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cynthia Cristobal, room S6-214, extension 33640 (91 pages).

584. Whither Hungary and the European Communities?

Alfred Tovias and Sam Laird

Hungary stands to gain considerably from an improvement in its standing in the EC pyramid of privileges. Membership in the EC could lead to an expansion of Hungarian exports to the Community of some 48 percent, with the main gains in meats, iron and steel, fruit and vegetables, textiles, and clothing.

Recent political changes in Eastern Europe are leading to closer economic relations between its countries and the EC. Hungary has been granted GSP status by the EC and, with some important exceptions, quantitative restrictions on its exports to the EC will be progressively eliminated.

Further improvement of Hungary's access to the EC market faces three main challenges: the full integration of Spain and Portugal in the EC, unification of Germany, and completion of the EC's internal market in 1992. The inclusion of Spain and Portugal in the EC is likely to stiffen the competition for Hungary's exports to the EC. After German unification, the former GDR — an important market for Hungary — will apply EC measures, and its goods will compete with Hungary's exports on more favorable terms in the rest of the EC. Under EC-92 the reduction of internal barriers will likely cause diversion of trade to other EC suppliers away from non-EC suppliers, by 5-7 percent on average according to the EC's calculations. New regulations and norms will have both positive and negative aspects for Hungary.

The continuing economic problems of Eastern Europe, including the Soviet Union, suggest that Hungary has little alternative but to seek even closer ties with the EC. But Hungary faces important supply constraints and will need an infusion of new technology and physical capital to take advantage of its position on the doorstep of the EC. Hungary has been examining the options of applying for EC membership. It has also considered applying for European Free Trade Association (EFTA) membership — possibly as an interim step toward EC membership — but this seems unlikely to be accepted by the EC, and obtaining EFTA membership would not be easy. EFTA membership would have distinct advantages because the EC/EFTA Protocol allows for virtually free trade in manufactures between the two blocs. Barring EC or EFTA membership, some form of association might yet be broached — along the lines of the EC's special relationship with Turkey, Yugoslavia, and other Mediterranean countries.

Tovias and Laird examined the potential trade effects of such different relationships between the EC and Hungary, including in the context of possible outcomes of the Uruguay Round. Their simulations confirm the importance of an exporter's place in the EC's pyramid of privileges. Membership in the EC could lead to an expansion of Hungary's exports to the EC of some 48 percent, with meats, iron and steel, fruit and vegetables, textiles, and clothing being the main sectors to gain, in declining order. This results from setting tariffs at zero and eliminating non-tariff barriers. Membership in the EFTA would lead to only a 15 percent expansion of exports to the EC, and obtaining the same preferential tariff treatment as the Mediterranean countries would lead to a 10 percent increase. GSP treatment is projected to expand exports by 6 percent. The authors superimposed their Uruguay Round scenarios on these preferential positions and found that the export gains from EC membership are reduced to 43 percent — as EC barriers are reduced for all countries. EFTA membership and the same treatment as other Mediterranean and GSP countries are somewhat better for Hungary than non-Uruguay Round scenarios, because under these scenarios the authors allow for some reduction in non-tariff barriers in agri-

culture and in the textile and clothing sectors, which more than offsets the relative decline in preferential tariff treatment. Only minor losses to Spain and Portugal would result from improved access to the EC for Hungary.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to analyze the implications of possible changes in the international economic environment. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Grace Ilogon, room S8-038, extension 33732 (48 pages).

585. Financial Innovation and Money Demand: Theory and Empirical Implementation

Patricio Arrau and José De Gregorio

A model that treats financial innovation as shocks that have a permanent effect on demand for money.

Traditional estimates of money demand are often characterized by periods of "missing money," unstable parameters, and autocorrelated errors.

Typically, these problems are resolved by changing specifications for the regressions once the shifts are identified. The shifts are usually associated with financial innovation.

Arrau and De Gregorio provide an alternative approach for dealing with the unobservable process of financial innovation. They derive from first principles a money demand that is consistent with many traditional models but that explicitly includes financial innovation. In their model, financial innovation is treated as shocks that have a permanent effect on demand for money.

They estimate the model using data for Chile (1975-89) and Mexico (1980-89).

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to look for better structural models for developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 31047 (42 pages).

586. The Challenging Arithmetic of Poverty in Bangladesh

Martin Ravallion

The recent evidence of a decline in absolute numbers of poor in Bangladesh in the 1980s is unconvincing. Recent growth in Bangladesh has been relatively low in a country where it needs to be relatively high to avoid an increase in the number of poor.

Did poverty increase in Bangladesh in the 1980s? How responsive is poverty in Bangladesh to economic growth and changes in relative inequalities? What are the prospects for poverty alleviation through currently anticipated economic growth in Bangladesh?

Ravallion addresses these questions using a narrow definition of poverty, whereby a person is judged to be poor if he or she resides in a household the income of which does not allow a consumption level that permits adequate nutrition. He concludes:• The recent evidence of a decline in absolute numbers of poor in Bangladesh in the 1980s is unconvincing. The rate of growth in real per capita consumption of 10 percent a year implied by the underlying household spending surveys is too high to be believed. One cannot assume that the national accounts are accurate, but their implied growth rate of about 0.5 percent a year is more plausible. Assessments of growth in the 1980s consistent with national accounts data (using household surveys only to measure *relative* inequalities) suggest that the proportion of the population deemed to be poor has remained fairly stable in recent years — while absolute numbers of poor have increased.

• Per capita growth rates in Bangladesh have been below average for South and Southeast Asia in the 1980s, and few observers expect this to change in the 1990s.

• The growth rates needed to prevent an increase in the absolute numbers of poor in Bangladesh, or to attain any given rate of poverty reduction, are higher than similar calculations have suggested would be needed for some other low-income countries in Asia. At a widely assumed poverty line for Bangladesh, the growth rate of real consumption per capita must be at least equal to the rate of population growth before the absolute numbers of poor can start to fall appreciably without a shift in relative inequalities. Such a growth rate has not been achieved in recent times, but is expected over the next 10 years or so by some observers.

• Recent growth in Bangladesh has been relatively low in a country where it needs to be relatively high to avoid an increase in the number of poor.

• Certain changes in relative inequalities could, in principle, wipe out poverty alleviation through growth. It appears that a fairly substantial change would be needed to do so for the simple headcount index of poverty in Bangladesh. However, other measures of poverty — which reflect changes in living standards of the poorest — will be more sensitive to how equitable the growth process is in the near future.

• Any poverty alleviation strategy for Bangladesh should strongly encourage domestic policy reforms and international assistance that not only enhance the rate of growth but also ensure that its benefits are shared widely.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — was prepared as a background paper for the *1990 World Development Report* on poverty. The paper draws on results from a PRE research project, Policy Analysis and Poverty: Applicable Methods and Case Studies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact the World Development Report office, room P4-009, extension 38064 (32 pages).

587. Quantifying the Magnitude and Severity of Absolute Poverty in the Developing World in the Mid-1980s

Martin Ravallion, Gaurav Datt, Dominique van de Walle, and Elaine Chan

Aggregate poverty would fall fairly rapidly if moderate growth in average consumption levels could be sustained and *the poor could share at least proportionally in that growth. But it would take only small adverse shifts in the world distribution of income to wipe out the potential gains to the poor from economic growth.*

The authors estimate that about one in five persons in the developing world did not attain a consumption level of $23 per

month in 1985 adjusted to constant $US purchasing power. About one in three persons did not attain a consumption level of $31 per month. They argue that a strong case can be made for treating the $23 figure as a reasonable lower bound for an absolute poverty line, while $31 is of interest as a common poverty line in low-income countries.

They find that the average consumption of the poor in the developing world was about 30 percent below either poverty line. This may be a very significant gap for a poor person. But, despite the large numbers of poor, the aggregate gap turns out to be a very small proportion of world consumption; for example, the aggregate poverty gap of the developing countries at the $31 poverty line is about 1.5 percent of the aggregate consumption of the non-socialist countries, falling to a mere 0.5 percent for the lower poverty line.

The authors find that aggregate poverty in the developing world will respond fairly elastically to economic growth, provided that the poor share at least proportionately in that growth. For example, a 1 percent annual growth rate at all income levels will reduce the proportion of the population that is poor by about 2 percent per year. If annual population growth rates stay at about 2 percent or lower, the total number of poor will decline.

However, the authors' results also suggest that even a seemingly modest worsening in distribution could upset this progress in poverty alleviation. For example, if the same 1 percent growth rate in average consumption was associated with only a 0.25 percent annual increase in the world Gini index of inequality, the reduction in the poverty gap attainable through growth would be virtually eliminated. Such a rate of increase in the world Gini index has been observed over recent decades, associated with the relatively low growth rates of a number of the poorest countries. In this case, the number of persons who do not attain even the most meager consumption levels would almost certainly increase.

On the other hand, a pattern of growth more favorable to the poor could rapidly accelerate global poverty reduction. The authors consider a rate of *decrease* in the world Gini index of 0.25 percent per year, roughly equivalent to a transfer of one-third of 1 percent of the world's mean income from the better-off half to the poorer half of the world's population. This would roughly double the rate of decrease in the aggregate poverty gap (measured against their higher poverty line) associated with a 1 percent annual growth rate in mean consumption of the developing countries. Instead of the decrease of 2.2 percent per year we could expect with distributionally neutral growth, we would see the poverty gap fall at an impressive annual rate of 4.5 percent.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — was prepared as a background paper for the *1990 World Development Report* on poverty. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact the World Development Report office, room P4-009, extension 38064 (43 pages).

588. Obstacles to Developing Small and Medium-Sized Enterprises: An Empirical Assessment

Brian Levy

How financing, regulatory, technical, marketing, and other constraints inhibit small and medium-sized enterprises from participating in the economies of Sri Lanka and Tanzania — and what this means for policy.

Brian Levy analyzes different types of constraints on the participation of small and medium-sized enterprises (SMEs) in the economies of Sri Lanka and Tanzania. He concludes that:

• The type and severity of constraints vary between the two countries:

Lack of access to finance is the binding nonprice constraint on the expansion of all SMEs in Tanzania, and on smaller, less-established firms in Sri Lanka.

In Tanzania, tax and regulatory burdens are the next heaviest constraint on all SMEs. In Sri Lanka, the smallest, least-established enterprises maintain an informal status outside the regulatory web. Larger, established Sri Lankan SMEs are inhibited by a host of nonprice constraints, no one of which is dominant.

• Tanzania's formal and informal financial systems for SMEs are weak. Sri Lanka's financial system for SMEs functions well; firms for which financing is limited are those to which lending would be imprudent. A key policy question is whether targeted credit should be used to accelerate SMEs' access to formal financial institutions (such a World Bank program was important for Sri Lanka's success) and whether banks should use their SME lending apparatus to make loans to microenterprises (which even in Sri Lanka are denied access to formal finance).

• Regulation inhibits the expansion of SMEs in quite different ways in the two countries:

In Sri Lanka, heavy formal tax and regulatory obligations are imposed only on larger firms. Reform priorities there should be to reduce these disincentives to firms achieving formal status and to broaden (but not to the point of universality) the reach of the tax and regulatory apparatus.

In Tanzania, heavy tax and regulatory requirements are imposed on all firms, albeit with pervasive lubrication and renegotiation of formal obligations. There the reform priority should be to exempt the smallest enterprises entirely from regulatory and tax obligations and to introduce more transparent administrative procedures.

• Underdeveloped arm's-length markets for intermediate inputs constrain the participation of SMEs. A prime cause of such market weakness is vertically integrated production by state-owned enterprises, even where there is no economic rationale for such integration. A challenge for privatization is to distinguish between those sectors where vertical integration is efficient and should be maintained when state-owned enterprises are privatized and those where the vertical structure should be broken up, allowing more opportunities for SMEs to participate.

• Educated entrepreneurs in established SMEs that serve high-quality market niches (but not uneducated entrepreneurs serving simpler markets) perceive limits in enterprise and economywide technical and marketing capabilities as significantly constraining expansion. It remains uncertain whether the weakness of support systems signals an underlying market imperfection that only government intervention can overcome.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Econom-

ics Department — is part of a larger effort in PRE to understand how to strengthen the private sector in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ernestina Madrona, room N9-061, extension 37496 (62 pages).

589. To Prescribe or Not to Prescribe: On the Regulation of Pharmaceuticals in Developing Countries

Jeffrey S. Hammer

A simple model is derived for determining which drugs should be available over-the-counter (and thus widely available even to those without access to formal health care) and which should be sold by prescription only (to reduce the dangers of errors in self-prescription).

From a theoretical perspective, Hammer examines policy considerations in the choice between allowing drugs to be sold over-the-counter and allowing them to be sold only under prescriptions issued by health professionals.

The essential tradeoff can be stated starkly. On the one hand, people are likely to make potentially large errors in self-prescription, with serious consequences. On the other hand, limiting drug availability to those with access to formal health facilities will exclude many from the market or run the risk of making drugs prohibitively expensive.

Hammer sets out a simple formal model and discusses the types of drugs that are optimally handled in one mode or the other.

What factors determine this choice? The nature of the drug, the relative precision of professional diagnoses versus those of the public, and the demand characteristics of health care.

Hammer also examines the effects of different policy options such as pricing policy, the training of professional personnel, and essential drug lists.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — was presented to the Second Congress on Health Economics in Zurich, Switzerland, in September 1990. It is part of a larger effort in PRE to determine methods for valuing information and information provision in the health sector. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (17 pages).

590. The Domestic Financial Market and the Trade Liberalization Outcome: The Evidence from Sri Lanka

Premachandra Athukorala and Sarath Rajapatirana

The main finding of the study is that the domestic financial market plays a very significant role in the success or failure of trade liberalization. This was found to be the case in Sri Lanka during 1977-87.

Athukorala and Rajapatirana developed a framework for analyzing the relationship between domestic financial markets and the effects of trade liberalization and applied it to Sri Lanka's experience between 1977 and 1987. They found that the domestic financial market significantly affects the outcome of trade liberalization.

Because Sri Lanka deregulated its interest rates when it undertook the trade liberalization, this allowed those earning more from trade liberalization to hold financial assets rather than nontradables. The availability of savings and time deposits at attractive interest rates prevented the premature appreciation of the exchange rate, thus helping to maintain the competitiveness stimulated by trade liberalization. By reforming interest rates, removing credit ceilings, and increasing competition among banks, Sri Lanka helped increase private sector savings — which could be reallocated to the tradable sector.

Unlike earlier studies on financial reform in Sri Lanka, this one finds that financial reforms have increased private savings in financial institutions, raised economywide financial intermediation ratios, and expanded credit to the private sector.

More important, Athukorala and Rajapatirana find a statistically significant relationship between the financial intermediation ratio and the real exchange rate.

Credit to the private sector had increased after reform of the financial sector, but its reallocation was inhibited by large fiscal deficits, inconsistent monetary policies, and increased intervention in the financial market. Through their negative effect on the real exchange rate, these interventions offset some of the gains in competitiveness achieved through trade liberalization.

Athukorala and Rajapatirana find no evidence of financial crowding out in Sri Lanka.

This paper — a product of the Trade, Finance, and Industry Division, Technical Department, Latin America and the Caribbean Regional Office — was undertaken as part of the World Bank's comparative study, Macroeconomic Policies: Crisis and Growth in the Long Run. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Margaret Kienzle, room I4-058, extension 30733 (55 pages).

591. Global Indicators of Nutritional Risk

Rae Galloway

A quick reference on the prevalence of protein-energy malnutrition among children in developing countries.

The purpose of this paper is to provide a quick reference on the prevalence of protein-energy malnutrition by presenting available weight-for- age data for children in developing countries.

These country data are arranged in tables by area of the world and by World Bank-designated income groups.

The data are also shown geographically on a map of the world.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to provide information on malnutrition to Bank staff working in operations. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (17 pages).

592. Official Credits to Developing Countries: Implicit Transfers to the Banks

Asli Demirgüç-Kunt and Harry Huizinga

The stock market expects virtually all additional resources provided to debtor countries to be used for debt service to commercial banks. The stock market capitalization of banks increased about $6 billion at the time of the 1983 U.S. proposal to increase its quota to the IMF by $8.5 billion, and by a low estimate of $22.4 billion at the time details of the Brady Plan were recorded.

Two types of event have affected returns of banks that are heavily exposed to third world debt in the 1980s: actions by the debtor countries (such as declarations of moratorium) and official actions (such as changes in regulations and in the provision of official monies to the debtor countries).

The effect of the first type of event has been extensively investigated. There are fewer studies analyzing the effect of official actions on bank stock returns. Demirgüç-Kunt and Huizinga investigate to what extent official money available to debtor countries has devolved to the banks, as reflected in stock market prices.

They find that the stock market expects virtually all additional resources provided to debtor countries to be used for debt service to commercial banks. The stock market capitalization of banks increased about $6 billion at the time of the 1983 U.S. proposal to increase its quota to the IMF by $8.5 billion, and by a low estimate of $22.4 billion at the time details of the Brady Plan were recorded.

The estimate of the magnitude of these effects is informative, but the emphasis should be on the direction of these effects, as they are robust to overestimation problems.

Clearly official resources provided to debtor countries do devolve to creditor banks. But the debtor countries should at least gain insofar as the reduction of a debt overhang eliminates investment distortions.

The results here stem from the fact that some of the monies provided by the multilaterals are specifically earmarked for debt service or are in the form of general balance-of-payments support that the developing countries can use for private debt service. Official creditor resources that are specifically provided to finance development projects are less likely to be allocated to bank debt service.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to understand commercial bank lending behavior. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 33730 (29 pages).

593. Risk Management in Sub-Saharan Africa

Stijn Claessens and Ying Qian

The optimal risk-minimizing financial portfolio for Sub-Saharan African countries would include only 30 percent general-obligation loans and 70 percent loans for which repayment obligations are indexed to the price of Sub-Saharan Africa's most important exports: cocoa, coffee, cotton, copper, and oil.

Claessens and Qian investigate the vulnerability of countries in Sub-Saharan Africa to uncertainty about commodity prices, exchange rates, and interest rates.

They discuss some of the instruments these countries can use to manage financial risk and conclude that instruments linked to commodity prices would significantly reduce their risk.

To account for possible interactions between external risks, they estimate the optimal portfolio of financial instruments for Sub-Saharan Africa.

They show that the risk-minimizing portfolio for Sub-Saharan Africa comprises only about 30 percent of general-obligation loans and about 70 percent of loans for which repayment obligations are indexed to the price of Sub-Saharan Africa's most important exports: cocoa, coffee, cotton, copper, and oil.

This portfolio reduces by about 90 percent the uncertainty of Sub-Saharan Africa's resources available for imports.

The risk-reduction benefit of the optimal portfolio is fairly stable for specific commodities included and for the specific period for which it is estimated.

This paper — a product of the Debt and International Finance and International Trade Divisions, International Economics Department — is part of PRE's research on the use by developing countries of financial instruments linked to commodity prices. The paper was prepared for the symposium on African External Finance in the 1990s held at the World Bank in September 1990. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Julie Carroll, room S7-069, extension 33715 (53 pages).

594. Size Rationalization and Trade Exposure in Developing Countries

Mark J. Roberts and James R. Tybout

The popular belief that trade liberalization will increase average plant size in import-competing sectors is not supported by recent Chilean and Colombian experience.

Common wisdom dictates that increased exposure to global markets increases the elasticity of demand perceived by domestic producers, which in turn shifts production toward larger, more efficient plants. Rationalization of production is more pronounced when there are few barriers to entry and exit of firms, because inefficiently small plants are induced to shut down.

Simulation models support the perceived wisdom that liberalization of imperfectly competitive industries in developing countries results in larger plants and more efficiency. But there is little microeconometric evidence to confirm the adjustment mechanisms these models assume.

To see if these effects could be confirmed, Roberts and Tybout examined annual plant data from Chile and Colombia, using a simple model that summarizes some effects of trade exposure on producer size and productive efficiency. They found that:

- Increased exposure to import competition appears to clearly *reduce* the size of all plants in both the short run and (especially) the long run. The popular belief that trade liberalization will increase average plant size in import-competing sectors is not supported by recent Chilean and Colombian experience. This may mean that liberalization does not

necessarily improve productivity, but their findings are not strong enough to warrant strong conclusions.

• The results depend greatly on whether barriers to firms' entry and exit are high or low. The effects of changing output levels, import and export shares, and effective protection rates are systematically moderated by the possibility of easy entry or exit. It could be that output adjustment by incumbent plants has less of a role when the number of plants adjusts to shifts in demand. Or it could mean that high turnover reflects competitive pressure and reduces the marginal impact of foreign competition on market structure.

• Long-run and short-run correlations of trade regimes and distribution of plant size are quite different. Short-run correlations associate exports with relatively large plants; long-run correlations associate exports with relatively small plants. Roberts and Tybout suggest caution in basing policy decisions on either finding.

These findings cast doubt on the mechanisms linking trade, plant size, and productivity in recent analytical and simulation studies.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to study industrial competition, productive efficiency, and their relation to trade regimes. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila Fallon, room N10-035, extension 37947 (39 Pages).

595. Hungary: Financial Sector Reform in a Socialist Economy

Mario I. Blejer and Silvia B. Sagari

The first steps of the Hungarian financial reform are in the right direction, and given the short time elapsed they have been successful. But administrative and technical obstacles remain, and a deepening of supporting measures is required.

Financial reforms in formerly centrally planned economies take a different form than in market economies because they imply not only liberalizing the system but also reshaping the structure and functioning of financial markets. And the reforms must be designed to facilitate the conduct of monetary policy under rapidly changing economic circumstances. To fulfill this role, financial reforms should (1) provide the authorities with monetary policy instruments that contribute to short-term stabilization and (2) provide the incentives for inducing a more efficient intermediation of savings through the financial markets.

In this context, Blejer and Sagari identify the main tasks and targets of financial reform and comment on the key developments of the Hungarian process.

Hungary has made substantial progress, they conclude, but macrofinancial indicators suggest that administrative and technical obstacles remain and that supporting measures must be deepened. Four steps in particular are needed:

• The ability of the monetary authority to conduct monetary policy must be enhanced.

• The operating and financial condition of financial intermediaries must be improved.

• Healthy competition among financial intermediaries must be encouraged.

• A prudential regulatory framework that does not discriminate against the development of a securities market must be established.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in PRE to analyze sector reform in socialist economies in transition. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Zena Seguis, room N9-005, extension 37665 (26 pages, including figures).

596. The Mexican Sugar Industry: Problems and Prospects

Brent Borrell

The economic costs of the extensive government regulation of the Mexican sugar industry are quantified and policy changes are suggested.

The Mexican sugar industry has been subject to extensive government controls over land ownership, cultivation, harvesting, milling, marketing, distribution, and pricing. The many objectives of these interventions include protecting producers and consumers from world price variability, ensuring self-sufficiency, guaranteeing employment and social welfare, providing cheap milling services, and protecting domestic soft drink manufacturers.

Borrell's calculations show that although the interventions have helped stabilize industry returns to some degree, the estimated effective rate of assistance points to a high degree of resource distortion. In years when world prices were low, such as in 1985-88, the effective rate of assistance is estimated in the range of 70-390 percent.

To analyze the impact of changes in Mexican sugar policies, Borrell constructed an econometric model of the Mexican sugar industry. This was linked to a global model of the world sugar industry. Stochastic simulations projecting the Mexican sugar industry under these policies show consumption increasing faster than production and Mexico increasing its sugar imports. It appears unlikely that under such policies Mexico would return to being an exporter of sugar.

In simulations of a sugar industry operating under essentially free trade conditions, Mexico becomes a significant sugar exporter. Production, trade, and stocks are more variable, and consumption growth is curtailed. But welfare in the economy as a whole would be increased substantially. The main beneficiaries would be sugar producers, and the losers consumers — but the loss to consumers would average less than US$3.20 per person per year.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to understand the implications for world commodity markets of changes in developing countries' trade policies and to assist developing countries in designing good trade and industry policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Pauline Kokila, room S7-040, extension 33716 (60 pages).

597. Rent Sharing in the Multi-Fibre Arrangement: Theory and Evidence from U.S. Apparel Imports from Hong Kong

Refik Erzan, Kala Krishna, and Ling Hui Tan

The actual cost of the multi-fibre arrangement (MFA) quotas to exporting developing countries could be considerably higher than conventional estimates that assume that exporters seize all the scarcity rents. For U.S. apparel imports from Hong Kong, the authors' findings point to a 50-50 sharing of the rents between the exporters and the importers.

Available estimates of tariff equivalents of quotas and welfare calculations on the costs of MFA quotas for developing countries are based on the premise of perfect competition in both product and license markets. It is also assumed that the exporting countries that administer the MFA quotas receive all the scarcity rents. Erzan, Krishna, and Tan argue that, in the presence of market power on the buyers' side in the product markets combined with concentration in the license markets, the importing countries might retain part of this rent — that is, share it with the exporters. Although the impact of imperfect competition on rent appropriation — non-equivalence of tariffs and quotas, and the size of the rent — has been analyzed in literature, rent sharing has so far been ignored in both analytical and empirical work. The paper makes a theoretical case for rent sharing, and then analyzes U.S. imports of apparel products from Hong Kong. It does not specify a particular model of imperfect competition but investigates whether the data conform to all the relevant predictions of the competitive model. The authors' method essentially tests whether the license price inclusive Hong Kong price, adjusted for tariffs and transport costs, is equal to the domestic (U.S.) price. A deviation between the two prices indicates rent sharing.

Erzan, Krishna, and Tan test the hypothesis with homogenous goods, modify it to take into account compositional differences, and, finally, consider differentiated goods. They find that historical data do not conform with the predictions of the competitive model. There is strong evidence that importers retain a substantial portion of the MFA quota rents. The determinants of the price differential are also studied.

Rent sharing substantially affects the estimated magnitude of welfare losses that exporting developing countries suffer because of MFA quotas — and, for that matter, because of any voluntary export restraint (VER) in other sectors. Not only do these countries have reduced export volumes, but, contrary to the prevailing wisdom, they do not receive all the scarcity rents the quotas generate.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to quantify the effects of protectionism, particularly in the developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Grace Ilogon, room S7-033, extension 33732 (70 pages).

598. Africa Region Population Projections, 1990-91 Edition

Patience W. Stephens, Eduard Bos, My T. Vu, and Rodolfo A. Bulatao

New estimates of trends in demographic indicators from the 1970s and revised projections for all countries and economies in the region.

As recently as the mid-1970s, the Africa region had a smaller population than the Asia, the Latin America and the Caribbean, or the Europe, Middle East, and North Africa regions. Explosive population growth of more than 3 percent per year, projected to decline only gradually, will make Africa the second largest region by 2005. Its share of the world's population will increase from less than 10 percent now to 20 percent in the middle of the next century and to 25 percent when stationarity is finally reached.

Vital rates vary relatively little among the subregions of Sub-Saharan Africa. Fertility is uniformly high, with the total fertility rate higher than 6 children per woman.

Linked with high fertility are high infant mortality rates, which are above 100 per thousand births for all subregions.

A few countries — Botswana, Zimbabwe, and Kenya — are leading the way in the African fertility transition. Recent fertility surveys in these countries show an increase in the use of contraceptives and the first evidence of fertility decline. It is assumed in the projections that this trend will spread to other countries. Most African governments now report their country's population growth rates as too high.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to update demographic estimates on an annual basis. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (222 pages with graphs and tables).

599. Asia Region Population Projections, 1990-91 Edition

Eduard Bos, Patience W. Stephens, My T. Vu, and Rodolfo A. Bulatao

New estimates of trends in demographic indicators from the 1970s and revised projections for all countries and economies in the region.

Almost half the world's population lives in Asia. This proportion is projected to decline to 40 percent by the end of the next century, mainly because of slowing growth in China. Other countries will continue to grow rapidly, and India, which adds more people every year than any other country, is projected to surpass China in total population.

Recent contraceptive prevalence surveys in several countries in the region show increasing proportions of couples using birth control. Fertility in these countries, mostly in Southeast Asia, has consequently declined rapidly.

Population growth rates started to drop in many countries in the region in the past decade, but the momentum built into the age structures of the populations will ensure continued population growth for many decades. Other countries in the region are lagging in fertility decline, and their populations will continue to grow at high rates. Infant and child mortality are lowest in countries where fertility has declined to low levels.

This paper — a product of the Population, Health, and Nutrition Division,

Population and Human Resources Department — is part of a larger effort in PRE to update demographic estimates on an annual basis. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (202 pages with graphs and tables).

600. Latin America and the Caribbean Region Population Projections, 1990-91 Edition

My T. Vu, Eduard Bos, Patience W. Stephens, and Rodolfo A. Bulatao

New estimates of trends in demographic indicators from the 1970s and revised projections for all countries and economies in the region.

The Latin America and the Caribbean region is demographically at an intermediate stage. Fertility has declined to between 3 and 4 children per woman in all subregions as contraceptive use has continued to broaden. Life expectancy has risen to between 65 and 69, or about 10 years below countries with the most favorable mortality conditions. Some countries in the region have advanced to replacement level fertility; a few others are just starting the fertility transition. The projections show all countries in the region completing the transition by 2030 – – the earliest of all regions.

As a result of high fertility in the past, the region has a young population, with 36 percent of the population under age 15. With fertility and mortality projected to continue to decline, working age population will be a rapidly expanding share of the total.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to update demographic estimates on an annual basis. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (208 pages with graphs and tables).

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601. Europe, Middle East, and North Africa Region Population Projections: 1990-91 Edition

Eduard Bos, Patience W. Stephens, My T. Vu, and Rodolfo A. Bulatao

New estimates of trends in demographic indicators from the 1970s and revised projections for all countries and economies in the region.

Recent trends in demographic indicators in the countries of the Europe, Middle East, and North Africa region show the distinctions among its three subregions:

- In Europe, low levels of fertility, mortality, and population growth persist.
- In North Africa, fertility has started to decline in the last decade, but high population growth continues because of young age structures and declining mortality.
- In the Middle East, fertility decline has not yet started in most countries, and population growth rates are among the highest in the world.

The population of the region as a whole is growing at 2.4 percent, and is projected to double in 30 years. During the 1990s, the region's population will increase by 14 million people every year. The total fertility rate is generally high — more than 6 children per woman in a dozen countries in the region. The infant mortality rate of 85 for the region, excluding Europe, exceeds the average for developing countries. The projections show mortality and fertility declining in all countries, following a model based on an analysis of observed trends worldwide.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to update demographic estimates on an annual basis. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (234 pages with graphs and tables).

602. Firm Output Adjustment to Trade Liberalization: Theory with Application to the Moroccan Experience

Mark A. Dutz

Output among firms is likely to be reallocated as a result of trade liberalization. In imperfectly competitive industries, such a "rationalization" effect can be an important component of the welfare impact of trade reform.

In an imperfectly competitive market environment, whether an economy gains from trade liberalization is necessarily an empirical question. How trade liberalization affects resource allocation depends not only on trade policies but on the nature of oligopolistic interactions and the ease of entry into and exit from particular industries.

In addition to generally lowering domestic industry prices, an increase in imports in recently liberalized industries causes domestic firms to adjust. Depending on assumptions in theoretical models, domestic output (and the equilibrium price) can either rise or fall after trade liberalization.

Dutz shows in an imperfectly competitive (Cournot oligopoly) model that loosening a quota on elastically supplied imports will typically cause smaller firms with high marginal costs to contract more (and to exit with a higher probability) than larger firms with low costs. This "rationalization" effect, a redistribution of resources from smaller to larger users, leads to lower industry-wide average costs and is an important component of the welfare impact of trade reform.

Dutz examines the extent to which incumbent firms in certain imperfectly competitive industries adjusted their output choice in Morocco between 1984 and 1987. During this period, Morocco scaled down an extensive system of quantitative restrictions. The econometric work focuses on industries subject to binding import quotas before and after the reforms. Dutz explores the distribution of output adjustment to the changes in imports among incumbent firms in such industries. He finds that:

- The more imports increased, the more firms tended to contract output.
- As imports increased, smaller firms were more likely to exit the industry than larger firms.
- Among survivors, small firms also tended to contract output proportionately more than larger firms. Small firms are more likely to bear the brunt of an industry's contraction in output in response to an increase in imports. (Dutz examines the impact of firm market share on firm output adjustment in percentage terms rather than in levels; no evidence of a shift of production from small to large firms is therefore presented in this paper.)
- The available pertinent data provide tentative (though weak) evidence that firms with higher marginal costs (as indicated by higher labor/output ratios) did have the smaller market shares, suggesting that the trade reforms in Morocco did result in the rationalization effects that theory would predict.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to examine industrial competition, productive efficiency, and their relation to trade regimes. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheila Fallon, room N10-017, extension 38009 (46 pages).

603. The Role of Officially Supported Export Credits in Sub-Saharan Africa's External Financing

Asli Demirgüç-Kunt and Refik Erzan

Officially supported export credits, an important source of external finance for developing countries until the early 1980s, are showing signs of regaining momentum. Sub-Saharan Africa stands to gain most from the increasing cooperation between the export credit agencies and such multilateral development agencies as the World Bank.

Like all low-income areas, Sub-Saharan Africa received only a modest share of the early officially supported export credit boom. But the share of officially supported export credits in Sub-Saharan African countries' external financing differed little from that of other developing countries. Officially guaranteed credits covered a more important chunk of capital flows to Sub-Saharan Africa from private financial sources compared to that

for higher income developing countries. Although private capital flows to Sub-Saharan Africa are relatively small, this close link suggests the importance of official support in realizing these flows. But officially supported export credits, designed as policy tools primarily to boost exports, were distortive and inefficient financial instruments, for both the exporting and the recipient countries.

Under the pressure of earlier losses and increasing scrutiny by their guardian authorities and national legislatures, export credit agencies have been increasing the flexibility of their operations and their reliance on market forces for pricing decisions.

Demirgüç-Kunt and Erzan contend that, given the current economic and political environment, development aid and bank lending will remain suppressed. Consequently, officially supported export credits can reemerge as an important source of relatively cheap and readily available financing.

Increasing cooperation between export credit agencies and such multilateral development agencies as the World Bank is a very positive development in reducing the waste and increasing the efficiency of officially supported export credits for both the donor and the recipient countries. Sub-Saharan African countries, which are impaired by the shortage of technical skills and administrative capacity and which may have suffered heavily from ill practices in export credits, stand to gain most from this cooperation.

Finally, a major source of inefficiency in the use of external funds, whether officially supported export credits or other funds, is distortions in the domestic economies of the borrowing countries. To induce lending to the private sector by export credit agencies, the recipient countries must improve the efficiency of their marketplace and institutions.

This paper — a product of the Debt and International Finance and International Trade Divisions, International Economics Department — is part of a larger effort in PRE to study alternative sources of external finance to developing countries in general, and to the African region in particular. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Grace Ilogon, room S7-033, extension 33732 (40 pages with tables).

604. Foreign Trade and Its Relation to Competition and Productivity in Turkish Industry

Faezeh Foroutan

Trade liberalization has improved productivity in the industrial private sector — especially tradables — but not in the public enterprises. Improved productivity of the latter has come from other sources.

Trade liberalization and more exposure to international competition generally benefited Turkish industry in the 1980s. But the effect of international competition appears to have been felt mainly in the private sector — especially in tradable industries.

In the first half of the 1980s, international competition decreased the price-cost margin and increased the growth rate of productivity in the private sector. In the public sector, deeper trade penetration seems to have lowered the price-cost margin in the public enterprises that were above-average in capital intensity, but had no impact on productivity.

Improved productivity in the public enterprises appears to be more related to changes in other areas — probably the reform of management.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to study the effect of trade liberalization on the performance and conduct of the industrial sector. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheila Fallon, room N10-041, extension 37942 (58 pages).

605. Overview of Contractual Savings Institutions

Dimitri Vittas and Michael Skully

Contractual savings institutions, because of their stable cash flows and long-term liabilities, could be ideal sources of term finance for both the public and private sectors. Unlike developed countries, most developing countries have insignificant contractual savings industries — but many are beginning to make reform in this industry a high priority.

Contractual savings institutions include national provident funds, life insurance companies, private pension funds, and funded social pension insurance systems. They have long-term liabilities and stable cash flows and are therefore ideal providers of term finance, not only to government and industry but also to municipal authorities and the housing sector.

Except for Singapore, Malaysia, and a few other countries, most developing countries have small and insignificant contractual savings industries that have been undermined by high inflation and inhibited by oppressive regulations and pay-as-you-go social pension insurance systems.

Contractual savings institutions play a much bigger role in the financial systems of developed countries. In some countries, such as Switzerland, the Netherlands, and the United Kingdom, the resources mobilized by life insurance companies and pension funds correspond to well over 100 percent of annual GDP.

Vittas and Skully provide an overview of the structure and the state of development of contractual savings institutions in both high- and low-income countries. They also identify a number of operating characteristics that define the social, economic, financial, and regulatory implications of different types of contractual savings institutions.

Reforming their contractual savings and pension systems is becoming a high priority in many countries. Vittas and Skully emphasize that the fundamental objectives of reform should include:

- *Providing adequate but affordable and therefore sustainable benefits* (this might involve some intentional redistribution for social equity).
- *Creating a strong link between contributions and benefits,* which would minimize any incentive distortions on labor markets and avoid capricious redistributive effects caused by volatile inflation and inconsistent service requirements.
- *Generating long-term savings* that would help stimulate the development of capital markets.

On the basis of their analytical evaluation of different types of institutions and in line with practice in high income countries, the authors advocate a multi-pillar approach to contractual savings and pensions. For developing countries this could include:

- *A first pillar,* in the form of *a social*

pension insurance system, that would provide a basic pension to old people, would aim for widespread coverage, and would be funded either from general tax revenue or from a combination of employee, employer, and government contributions.

• *A second pillar,* based on *a compulsory system of personal pension plans* offering contribution-based benefits but with strong safeguards regarding inflation protection and solvency (this pillar could comprise both a state-run national provident fund and personal pension plans offered by private-sector insurance companies and commercial banks).

• *A third pillar,* consisting of optional funded *occupational pension schemes* that might be offered by multinational corporations as well as large local conglomerates.

• *A fourth pillar,* consisting of *voluntary personal savings* such as bank deposits, life insurance policies and annuities, marketable securities, and houses.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in PRE to study the financial and economic impact of contractual savings institutions and assess their prospects in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Wilai Pitayatonakarn, room N9-003, extension 37666 (59 pages with tables).

606. Adjustment Policies and Investment Performance in Developing Countries: Theory, Country Experiences, and Policy Implications

Luis Serven and Andrés Solimano

Adjustment without growth has been, for many developing countries, the outcome of the debt crises of the 1980s. Macroeconomic stability, policy credibility, and adequate external financing are among the key ingredients for achieving a strong investment response to adjustment measures.

Serven and Solimano analyze the response of private and public investment to external shocks, macroeconomic adjustment, and structural reform in three sets of countries: (1) countries that pursued structural reform and liberalization in Latin America in the 1970s (Chile) or the 1980s (Mexico and Bolivia); (2) countries that experienced severe macroeconomic instability and did not pursue macroeconomic reform (Argentina and Brazil); and (3) East Asian countries with high-growth, outward-oriented, state-active economies that adjusted to the shocks of the 1980s and maintained high growth, low inflation, and remarkable macroeconomic stability (Korea, Singapore, and Thailand).

Drawing on the literature and their econometric analysis of the determinants of private investment in developing countries using cross-country data for 1972-87, Serven and Solimano conclude (among other things) that:

• Macroeconomic stability and policy credibility are essential for achieving a strong investment response. Investment is likely to be limited under great macroeconomic uncertainty or if policy measures are perceived as inconsistent or suspected to be only temporary — in which case investors prefer to wait and see before committing resources to irreversible fixed investments.

• The sequence of adjustment measures is thus important. Trade liberalization measures undertaken while macroeconomic instability persists are likely to be viewed as purely transitory, and thus might actually distort the investment pattern.

• Even well-designed, consistent adjustment programs might have to overcome a lack of credibility, especially in their early stages. If enough external resources are available, the private sector may be more confident about the viability of adjustment efforts, which could facilitate investment recovery.

• Even if policy changes are perceived as permanent, inadequate infrastructure may pose a significant obstacle to the recovery of private investment. The implementation of well-targeted public investments in infrastructure projects can stimulate the private sector's response to adjustment measures.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to investigate the response of private investment to macroeconomic adjustment measures. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Emily Khine, room N11-061, extension 39361 (63 pages).

607. Abolishing Green Rates: The Effects on Cereals, Sugar, and Oilseeds in West Germany

Donald F. Larson, Simon Glance, Brent Borrell, Merlinda Ingco, and Jonathan Coleman

Eliminating the price differentials that result from country- and commodity-specific exchange rates ("green rates") would reduce farm income and devalue fixed agricultural assets. This complicates the difficult task of reform that is essential if there is to be a unified European market.

In 1987 the European Community began the ambitious task of forging a single market for goods and services across the national borders of its member states by 1992. Substantive reform of the Community's Common Agricultural Policy — necessary for the full integration of existing markets — has not yet been accomplished and has proven difficult to achieve.

Creating a truly "common" agricultural policy in the European Community requires, at a minimum, eliminating price differences resulting from country- and commodity-specific exchange rates, known as "green rates."

Larson and his associates discuss the various policy instruments that complicate the effects of these policy-determined price differences on crop production and the demand for inputs. They present a model that estimates the cross-commodity biases created by multiple policy instruments and that quantifies the effects of removing green-rate differentials in what was West Germany.

The effects of price changes on domestic production are statistically significant in the model, although quantitatively small. This result suggests that eliminating green rates would lead primarily to a decline in farm income and a devaluation of fixed agricultural assets — which complicates the difficult task of attaining reform.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to understand the implications for developing countries of

changes in the industrial countries' trade policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Dawn Gustafson, room S7-044, extension 33714 (22 pages).

608. Cross-Country Studies of Growth and Policy: Methodological, Conceptual, and Statistical Problems

Ross Levine and David Renelt

The design, implementation, and interpretation of cross-country investigations should be improved. This review of conceptual, methodological, and statistical weaknesses in cross-country studies suggests that existing findings warrant only limited confidence.

Levine and Renelt review the conceptual, methodological, and statistical problems associated with drawing inferences from cross-country regressions. They elaborate on the particular problems associated with empirical attempts to link particular policies with long-run growth.

They hope to stimulate improvements in the design, implementation, and interpretability of cross-country investigations and to caution readers about the confidence they place in existing findings.

(See also WPS 609.)

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to understand empirically the links between policy and long-run growth. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact CECMG staff, room N11-024, extension 39175 (54 pages).

609. A Sensitivity Analysis of Cross-Country Growth Regressions

Ross Levine and David Renelt

A vast literature uses cross-country regressions to find empirical links between policy indicators and long-run average growth rates. But conclusions from those studies are fragile if there are small changes in the independent variables.

A vast literature uses cross-country regressions to find empirical links between policy indicators and long-run average growth rates.

Levine and Renelt study whether the conclusions from existing studies are robust or fragile if there are small changes in the list of independent variables.

Their conclusion: they are fragile.

They find that although "policy" — broadly defined — appears to be importantly related to growth, there is no strong independent relationship between growth and almost every existing policy indicator. Levine and Renelt:

- Find that very few macroeconomic variables are robustly correlated with cross-country growth rates.
- Clarify the conditions under which one finds convergence of per capita output levels.
- Confirm the positive correlation between the share of investment in GDP and long-run growth.
- Conclude that all findings using the share of exports in GDP could be obtained almost identically using the total trade or import share. (Cross-country growth studies that use export indicators should not be interpreted as studying the relationship between exports and growth per se but rather as between growth and trade defined more broadly.)
- Find that many commonly used fiscal indicators are not robustly correlated with growth.
- Highlight the importance of considering alternative specifications in cross-country growth regressions.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department is part of a larger effort in PRE to understand empirically the links between policy and long-run growth. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact CECMG staff, room N11-024, extension 39175 (43 pages, with tables).

610. Can Preshipment Inspection Offset Noncompetitive Pricing of Developing Countries' Imports? The Evidence from Madagascar

Alexander J. Yeats

Many developing countries pay preshipment inspection firms well to verify that imports (and sometimes exports) meet quality and quantity standards and that prices are within established norms. But preshipment inspection failed to reduce the excessive import prices Madagascar was paying (particularly for chemicals and basic manufactures), possibly as the result of false invoicing by Madagascar importers and industrial country exporters.

Many developing countries use preshipment inspection (PSI) firms to counter the adverse effects on their foreign trade of certain pricing and business practices. These firms may also perform some national customs functions, but their key responsibility is normally to verify that imports (and sometimes exports) meet quality and quantity standards and that prices are within established norms.

Developing countries make substantial payments for PSI — charges appear to average about 1 percent of the value of the goods inspected — but have undertaken no comprehensive cost-benefit studies of PSI.

Using data from Madagascar's experience, Yeats analyzes the impact of PSI on Madagascar's relative import prices. The results suggest that Madagascar paid considerably higher prices than other developing and industrial countries both before and after PSI was adopted.

In other words, preshipment inspection failed to reduce Madagascar's import prices to the level of those paid (on average) by other importers. Extreme prices (150 percent or more above average) occur for all types of goods imported by Madagascar but are clustered in chemicals (SITC 5) and basic manufactures (SITC 6).

Evidence suggests that collaborative false invoicing by Madagascar importers and industrial country exporters is one reason for the excessive prices both before and after adoption of PSI.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to improve developing countries' ability to make more effective use of their financial resources in the procurement of imports vital to industrialization and growth. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Jean Jacobson, room S7-037, extension 33710 (31 pages).

611. Tariff-based Commodity Price Stabilization Schemes in Venezuela

Jonathan R. Coleman and Donald F. Larson

Of the stabilization schemes proposed to ease the liberalization of quota-driven, price-managed domestic markets for several "essential" commodities, the wide price band — based on a moving average of nominal border prices — is the least offensive. It provides benefits when price movements are extreme but preserves average international price signals.

Venezuela's agricultural sector is heavily regulated and protected. As part of structural adjustment, the government is considering major reform of its agricultural trade policies. The strategy is to introduce competition into the economy by removing government price controls and liberalizing trade.

The government is concerned about the microeconomic effects of the resulting commodity price instability on individual producers and consumers. Farm prices have been fixed in Venezuela for more than 40 years, so Venezuelan farmers have little experience managing risk; and the government fears high food prices will lead to malnutrition among the poor and a repeat of the food riots experienced in Caracas in 1989.

In 1990, the government of Venezuela proposed a price stabilization scheme to ease the liberalization of quota-driven, price-managed domestic markets for several "essential" commodities — including maize, sorghum, rice, wheat, sugar, palm oil, and soybeans and soybean products. Coleman and Larson analyzed historical data to demonstrate the effects of several alternative stabilization schemes on domestic prices and government revenues. They also calculated average welfare benefits, including transfer and risk benefits — based on assumptions about risk aversion among producers.

The effects of the various stabilization schemes on government revenues and producer welfare depend on both the crop and the method of stabilization chosen.

Generally, Coleman and Larson conclude that a wide price band — based on a moving average of nominal border prices — is the least offensive of the stabilization proposals, providing benefits when price movements are extreme but preserving average international price signals.

As a practical matter, budget constraints may limit the government's ability to defend the domestic price range dictated by this scheme.

Four properties are desirable in any stabilization scheme, contend Coleman and Larson:

- The scheme should allow changes in the world price to be reflected in the domestic market.
- The mean stabilized price to producers should not be above or below the long-run average international price.
- The scheme should not put too much of a financial burden on the government.
- The scheme should be transparent and predictable.

This paper — a product of the International Trade Division, International Economics Department — is part of PRE's research on commodity price risk management by developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sarah Lipscomb, room S7-062, extension 33718 (46 pages, with tables).

612. Education and Productivity in Developing Countries: An Aggregate Production Function Approach

Lawrence J. Lau, Dean T. Jamison, and Frederic F. Louat

Education is an important determinant of aggregate real output and productivity, but its effect varies considerably across countries and regions — ranging from negative to more than 5 percent a year in this sample.

The estimated rates of return to education are typically (often considerably) above 10 percent a year in real terms — a respectable rate of return. The rates of return are highest for primary education, and higher in countries where educated manpower is scarcer. And the durability of educational capital can be as high as 50 years.

But the effect of education on real output has not been well documented. In particular, few published studies of aggregate production functions establish a statistically significant link between real GDP and the labor force's educational attainment. Lau, Jamison, and Louat found that education has had little effect on the aggregate real GDPs of a sample of Sub-Saharan African countries.

Now Lau, Jamison, and Louat have pooled data on 58 developing countries, from 1960 through 1986, to estimate an aggregate production function using as independent variables the quantities of capital, labor, land, average educational attainment of the labor force, and chronological time.

They measured the percentage change in a region's real GDP in response to an increase of one year in the average educational attainment of the working age population in 1985. The estimated effects range from negative to more than 5 percent a year.

The results suggest:

- A positive relationship between the level of primary schooling achieved and the size of its effect.
- A threshold of four years of schooling before primary school has an effect.
- The effect of secondary education seems to be independent of the level of secondary schooling attained, although local factors may predominate here — witness the negative effect estimated for South Asia.

They conclude that education is an important determinant of aggregate real output and productivity but that its effect varies considerably across countries and regions.

More research is needed to explain why education varies in its effectiveness, especially where the effect appears to be negative. They speculate that certain factors may influence the effect of primary and secondary education on aggregate real output — among them, a country's institutions, its organizations for production and distribution, the composition and skill requirements of its industries, the structure of education, and the incidence of war and pestilence.

This paper — a product of the Welfare and Human Resources Division, Population and Human Resources Department — was prepared as a background paper for the *1990 World Development Report* on poverty. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact the World Development

Report office, room S13-060, extension 31393 (33 pages, with tables).

613. Price-Wage Dynamics and the Transmission of Inflation in Socialist Economies: Empirical Models for Hungary and Poland

Simon Commander and Fabrizio Coricelli

Nominal anchors — particularly wage restraints — are important in stabilization programs in reforming socialist economies. Without conventional equilibrating mechanisms and effective market restraints on wages, monopolistic pricing can result in powerful inflationary pressures and higher-than-warranted output costs.

Commander and Coricelli set up a simple inflation model to analyze the transmission and short-run dynamics of inflation in partially reformed socialist economies. The model has features derived from market economies with few producers and sticky prices. It also tries to capture some attributes of socialist economies, including chronic excess demand in goods markets. Most of the empirical analysis focuses on the period after 1982 when market-related reforms had been implemented.

Commander and Coricelli simultaneously estimate dynamic price and wage models. The estimated equations allow them to explore the role and weight of foreign prices and domestic factors in propagating inflation in Hungary and Poland.

They find that foreign prices matter but cost developments are critical in relating exogenous, policy-determined price adjustments to increases in inflation. In most periods, wages were indexed to prices — but in Poland more complex bargaining games emerged and a corresponding inability to make centralized wage norms hold. Polish planners relied increasingly on price adjustments to address emerging macroeconomic imbalances, but these only further destabilized the system and failed to address the underlying sources of macroeconomic imbalances. In contrast, the Hungarian experience points to some of the ways administered prices can be used to stabilize the system.

This paper — a joint product of the National Economic Management Division, Economic Development Institute, and the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to analyze the sources and dynamics of inflation in transitional socialist economies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Olga Del Cid, room M7-047, extension 39050 (33 pages).

614. Accountability in Public Services: Exit, Voice, and Capture

Samuel Paul

Public accountability is strengthened when government control (monitoring and incentive systems) is reinforced by the public's willingness and ability to find alternative sources of supply ("exit") or to exert pressure to perform ("voice") — to balance the phenomenon of "capture" (the tendency of those who manage and control the allocation of public services to seek rents, not serve the public interest).

Paul argues that public accountability, a major determinant in public performance, is strengthened when the government's hierarchical control (monitoring and incentive systems) is reinforced by the public's willingness and ability to find alternative sources of supply ("exit") or to exert pressure to perform ("voice") — which will depend on the relative costs of these options, what the results might be worth, and the underlying degree of market failure.

The phenomenon of "capture" is the tendency of those who manage and control the allocation of public services to engage in rent- seeking. Capture, together with government monopoly of many public services, the public's limited ability to demand and monitor good performance, and problems in measuring and quantifying the benefits of services, make the improvement of public accountability complex and difficult.

Three things can be done in the medium term to improve public accountability in developing countries:

- Mobilizing public opinion for change by disseminating comparative information about the performance of public services. Public surveys of client satisfaction, public evaluations of service providers, and comparisons of performance indicators within and across countries may help create a groundswell demand for reform.
- Mustering exit and voice mechanisms to correct the imbalance among stakeholders of public services. In many developing countries, the mandates and behavior of service providers are dominated by their own preferences or the priorities of their supervisors and influential elite groups. The weakest stakeholders are the unorganized public or the poorer sections of society.
- Checking monitoring and incentive systems used by service providers and their supervisors for compatibility with the expectations of the stakeholders — and tradeoffs must be worked off between them. In developing countries, where poverty reduction is a major goal, imbalances must be corrected so there is a shift of services toward the poor, and an improvement in access to and quality of services.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — is part of a larger effort in PRE to examine the complex issues of governance and public accountability in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ernestina Madrona, room N9-061, extension 37496 (54 pages).

615. Socialist Economic Growth and Political Investment Cycles

Heng-fu Zou

Investment rates in China have often been highest under leftist (hardline) political regimes, not rightist (softline) political regimes.

Socialist economic growth in China and Eastern Europe has long been characterized by investment hunger, drives toward expansion, and cyclical fluctuation of investment rates.

For decades, relatively high growth rates — often accompanied by a shortage of consumption goods — have typically been achieved at the consumers' expense.

Treating social planners as self-interested bureaucrats, Zou offers a positive model to help understand the norms of socialist economic growth. This model

demonstrates:

- How rapid capital accumulation tends to serve the social planners' own interests.
- Why investment hunger is an inevitable consequence of social planners' rational choices.
- When a drive toward expansion can cause a permanent shortage of consumption goods.

Through numerical examples and empirical tests, Zou provides a framework within which to analyze political investment cycles in a socialist economy. In China, Zou finds that high investment rates have often been linked to leftist (or hardline) political regimes and low or moderate investment rates with "rightist" (or softline) political regimes.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to study the centrally planned economies in transition. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (24 pages).

616. Optimal Nonlinear Income Taxation for the Alleviation of Poverty

Ravi Kanbur, Michael Keen, and Matti Tuomala

Poverty-minimizing marginal tax rates on the poor are in the range of 60-70 percent.

There has been much discussion recently of "targeting" in the design of social security and income transfers — that is, the structuring of tax and transfer programs to ensure that resources go to the poor, with minimal leaks to the nonpoor.

Incentive effects force one to rule out 100 percent marginal tax rates on the poor (implicit in benefit withdrawal). With a marginal tax rate of 100 percent, the poor have no incentive to earn income. But how high or low the marginal rate of taxation should be, and how they should vary with income, is more complex — and opinion varies widely.

Social security schemes that withdraw benefits represent an extremely high effective marginal tax rate; other schemes call for relatively low marginal tax rates at the bottom of the income distribution. Which tax-tranfer schedule does most to reduce poverty?

The issue, say Kanbur, Keen, and Tuomala, is one of optimal nonlinear income taxation — using a nonwelfarist objective function that seems to accord well with the common concerns of the policy debate: an income-based poverty index.

They show that one of the key theoretical results of the welfarist literature is overturned: if it is desirable for everybody to work, the optimal marginal tax rate on the very poorest individuals is strictly negative (a marginal subsidy).

They argue that the nonwelfarist perspective points toward lower marginal tax rates in the lower part of the income distribution than does the welfarist perspective. But numerical simulations suggest that this effect is of limited quantitative significance.

Using conventional functional forms and parameter values, optimal marginal tax rates on the poor are in the 60-70 percent range.

This paper — a product of the Research Administrator's Office, Office of the Vice President, Development Economics — is part of a larger effort in PRE to understand the design of poverty alleviation policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Jane Sweeney, room S3-026, extension 31021 (19 pages).

617. International Poverty Projections

Sudhir Anand and Ravi Kanbur

The methods used in projections of international poverty — particularly in many World Bank documents — are not robust to reasonable changes and improvements in the methodology. In some cases, even the projections' time trend is reversed. Use these projections with caution.

Anand and Kanbur investigate the methodology used in projections of international poverty — particularly those used in many World Bank documents. They examine critically, and subject to sensitivity analysis, the methodology developed by Ahluwalia, Carter, and Chenery in an influential 1979 paper.

They find that those projections of poverty are not robust to reasonable changes and improvements in the methodology; in some cases, even the projections' time trend is reversed.

Thus, analysts and policymakers should treat such global forecasts of poverty with caution.

This paper — a product of the Research Administrator's Office, Office of the Vice President, Development Economics — is part of a larger effort in PRE to analyze the design of poverty alleviation policies. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Jane Sweeney, room S3-026, extension 31021 (37 pages).

618. Poverty and Development: *The Human Development Report* and *The World Development Report*, 1990

Ravi Kanbur

The consensus represented in these two comprehensive reports holds out the hope that the polarization of policy analysts into "camps" is a thing of the past — and that policies for the 1990s can be built on agreement about the basics. Among the basics: that poverty alleviation requires growth, but growth is not enough.

After the "adjustment decade" of the 1980s, attention in the 1990s seems to be turning once again to longer-term issues of development — particularly of poverty alleviation.

Just as the 1980s were heralded by a series of reports on adjustment, so the 1990s have seen two major reports on poverty: *World Development Report 1990: Poverty*, by the World Bank, and *Human Development Report 1990* by the UNDP (the first in a planned annual series focusing on human development).

Kanbur presents an overview of conceptual issues and the best policies for alleviating poverty, based on a review of these two reports. He poses basic questions on the definition and measurement of poverty, looks at what has actually happened to poverty in developing countries in the last three decades, and reviews policies to help alleviate poverty.

The consensus represented in these two reports, he concludes, offers hope that the polarization of policy analysts into "camps" is a thing of the past — and that policies for the 1990s can be built on fundamental agreement about the basics:

- That poverty alleviation requires growth — but growth is not enough.
- That growth must be broad-based and labor-intensive, and must go hand in hand with purposive, targeted basic social expenditures.
- That the international community must do its share, by supporting these efforts in the 1990s through greatly increased capital flows to developing countries.

This paper — a product of the Research Administrator's Office, Office of the Vice President, Development Economics — was prepared for a special issue of *Pensamiento Iberoamericano*. It grew out of a session Kanbur organized and chaired at the Fifth International Congress of the European Economic Association, held at Lisboa in August 1990. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Jane Sweeney, room S3-026, extension 31021 (25 pages).

619. Foreign Direct Investment in Sub-Saharan Africa

Laurence Cockcroft and Roger C. Riddell

Foreign investment is even less likely to meet Sub-Saharan Africa's rising foreign exchange and savings gaps in the 1990s than in the dismal 1980s. Investors interested in Sub-Saharan Africa are more likely to commit technology and management than equity capital. Economic activity and overall economic policy may be more effective at raising the total volume of investment than special fiscal and other incentives.

Cockcroft and Riddell examine trends in private foreign direct investment in Sub-Saharan Africa, assess how this has affected the host economies, and discuss the prospects for increased investment in the 1990s. They examine new or nontraditional forms of investment as well as more traditional stock and flow trends. They also focus on the relationship between structural adjustment programs and foreign private investment.

Clearly, structural adjustment programs have had a negative effect on high-cost, overprotected import-substituting industries in Sub-Saharan Africa; some were intended to do so. Structural adjustment programs are expected to attract a good deal of foreign direct investment but there is little evidence yet that they are doing so.

Foreign investment in the 1990s (as in the 1980s) is likely to flow to a few key sectors: energy (certainly minerals), selected export manufacturing sectors, and possibly the tourist industry. The least attractive area for the foreign investor is exclusively import-substituting industrialization.

Investors interested in Sub-Saharan Africa are more likely to commit technology and management than equity capital. As a result, development finance institutions are likely to play an increasingly important role in meeting the need for capital.

Thus, activity in Sub-Saharan Africa may be more effective at raising the total volume of investment than any change in the climate of fiscal and other incentives.

There is no prospect whatsoever for foreign investment to meet Sub-Saharan Africa's rising foreign exchange and savings gaps — indeed, the prospects may be worse in the 1990s than in the dismal 1980s. For one thing, prospects in other parts of the rapidly changing world look brighter and less risky and are closer to home. For another (Catch 22), Sub-Saharan Africa is unlikely to attract capital until the prospects for growth improve — which is more likely in countries that succeed in attracting more public and private foreign capital.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to assess the external financial situation of developing countries, overall and by regional and analytical group. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-040, extension 33730 (71 pages).

620. Have Commercial Banks Ignored History?

Sule Özler

No. Creditors in the 1970s took into account the default histories of borrowers and gave defaulters worse credit terms on new loans.

What incentives do countries have to repay loans? Do banks credibly punish borrowers that behave badly — and if so, how? Two explanations are commonly offered for why countries repay debts: (1) to preserve their reputation as a good borrower or (2) to avoid direct sanctions, such as trade sanctions or the seizure of overseas assets.

Özler empirically investigated the effect of repayment problems in earlier eras on the spreads paid by developing country borrowers in the 1970s. She found that creditor banks did take account of borrowers' default histories. Defaulters paid higher spreads than nondefaulters, and the defaulters that reneged on larger portions of their past debt paid (even) higher spreads.

Özler also found that countries that acquired sovereignty more recently were charged higher spreads than other countries.

These findings apply during an expansionist period. During an earlier crisis stage, markets failed to discriminate between borrowers that "behaved badly" and those that did not.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to analyze commercial bank lending to developing countries and to assess the prospects for future lending. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-040, extension 33730 (32 pages).

621. Sensible Debt Buybacks for Highly Indebted Countries

Enrica Detragiache

Concerted agreements in which debt repurchases are linked to reduced interest rates or new-money requirements can make buybacks at a fair price viable, while preventing a free-rider problem among lenders.

Previous studies indicate that debt buybacks at market prices benefit lend-

ers the most — because the lack of a seniority structure in sovereign lending distorts secondary market prices upward.

Detragiache examines whether welfare-improving buybacks would arise at the "fair" price. If so, policy intervention is needed to remove the distortion. In a model of intertemporal consumption smoothing, buybacks at the fair price are desirable if the country experiences unusually heavy export earnings and if large reserve holdings tend to increase transfers to creditors in default states.

Concerted agreements in which debt repurchases are linked to cuts in interest rates or new money requirements can make buybacks at the fair price viable, while preventing the free-rider problem among lenders.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to understand the benefits and costs of voluntary market-based debt and debt service reduction operations. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-040, extension 33730 (32 pages).

622. How Factors in Creditor Countries Affect Secondary Market Prices for Developing Country Debt

Sule Özler and Harry Huizinga

Flat-rate deposit insurance, combined with limited liability, encourages banks — especially poorly capitalized banks — to gamble with depositors' money. A bank's heavy exposure in developing country debt increases the secondary market price; strong bank capitalization decreases it.

Bank loans to many developing countries trade at a discount on the secondary market. These discounts are typically assumed to reflect only the repayment prospects of the borrower country.

But Özler and Huizinga demonstrate that factors in the creditor countries have a major impact on secondary market prices. Their empirical investigation suggests a systematic relationship between secondary market prices and the size distribution of banks' portfolios.

There is a strong negative correlation between discounts in the secondary market and U.S. banks' heavy exposure to developing country debt. They estimate that every US$4 billion increase in a large bank's exposure to a country reduces the discount 10 to 15 cents on the dollar.

They also find that discounts and total bank capital are strongly positively correlated over time: a US$8 billion increase in the capital of the largest U.S. banks increases discounts by nearly 25 cents on the dollar.

They explain their results with a simulation model of a representative bank with minimum capital requirements, flat-rate deposit insurance, and limited liability. The bank's portfolio adjustment decision involves trading risky foreign loans in the secondary market or making short-term domestic loans. The model yields a negative relationship between the banks' exposure to developing countries and discounts in the secondary market.

This is because flat-rate deposit insurance, combined with limited liability, encourages banks to gamble with depositors' money and to choose a more heavily concentrated developing country loan portfolio. Similarly, poorly capitalized banks with deposit insurance benefit more than well-capitalized banks do from a risky developing country loan portfolio.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to understand the secondary market for developing country debt as part of its analysis of voluntary market-based debt and debt service reduction. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-040, extension 33730 (40 pages).

623. World Bank-Supported Adjustment Programs: Country Performance and Effectiveness

Vittorio Corbo and Patricio Rojas

Most of the Bank's adjustment lending programs have increased the growth rate of GDP, the ratio of exports to GDP, and the ratios of saving to GDP. But the average ratio of investment to GDP is lower than 1970s levels. Sometimes unsustainable levels of public investment in the 1970s had led to economic crisis, and investment had to become more efficient. To restore growth, the challenge of the 1990s is to have good economic policies and to create the conditions needed to increase investment-to-GDP ratios.

Simple comparisons of growth rates in countries that have had at least two structural adjustment loans (SALs) or at least three adjustment loans (the first one in 1985 or before), show that their growth has improved more than that of other countries.

But simple comparisons of the performance of groups of countries are poor estimators of the effectiveness of adjustment programs because the performance of an adjusting country is the result of:

- The policies that would have been in place even without adjustment loans from the Bank.
- World economic conditions.
- The effects of the Bank-supported program.
- Internal shocks to the economy (such as drought, wars, and earthquakes).

After explicitly controlling for external shocks and nonprogram determinants of performance, Corbo and Rojas find that adjustment lending programs have usually increased the growth rate of GDP and the ratio of exports to GDP, and have increased the saving-to-GDP ratio over early 1980s levels. But the average ratio of investment to GDP has fallen below 1970s levels.

The drop in investment's share in GDP in the initial years of adjustment must be interpreted carefully. In many countries, economic crisis was the result of unsustainable levels of public investment reached in the 1970s; part of the needed adjustment was reducing high levels of inefficient public investment. Also, the initial uncertainty that occurs when an adjustment program begins will probably slow down private investment.

Despite their disappointing investment performance, these countries experienced more of an increase in their rates of GDP growth in 1985-88 than in 1970-80. This must reflect more efficient investment combined with increased capacity utilization.

But for countries that have reduced most of their policy inefficiencies, achieving an acceptable, sustainable growth rate in the 1990s will require higher investment rates than those achieved in the 1980s. The challenge of the 1990s is to

create the conditions needed to generate an increase in investment-to-GDP ratios.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to assess the effectiveness of adjustment lending. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Aludia Oropesa, room N11-035, extension 39075 (37 pages).

624. Choosing Policy Instruments for Pollution Control: A Review

Gunnar S. Eskeland and Emmanuel Jimenez

Such realistic problems as limited monitoring and enforcement capacity can often render the standard recommendations on pollution control ineffective, particularly in developing countries. Taxes (and subsidies) on inputs and outputs can in some cases be effective in reducing pollution — even if they imperfectly mimic pollution taxes.

Eskeland and Jimenez review the theoretical and empirical literature on policy instruments for pollution control, emphasizing constraints on policy choices that prevail in many developing countries. They examine how a given reduction in emissions can be achieved at the lowest possible cost.

Under some restrictive assumptions common in welfare economics, a pollution tax gives perfect incentives for reducing pollution.

Under the same assumptions, a system of tradable emission permits also allows efficient emission reduction — in contrast to the more common command-control regulatory regimes of source-specific emission constraints. Source-specific constraints usually achieve the same degree of abatement at a higher cost.

But these standard assumptions are particularly inappropriate in developing countries. First, transfer mechanisms are not well developed, with the consequence that both the public revenue and income for the poor are valued at a premium. Second, monitoring and enforcement capacity can be severely constrained, with the result that sophisticated instruments such as pollution taxes and tradable permits cannot play a major role.

The authors discuss recommendations that take these and other problems into account. An example is that policies relying heavily on monitoring and enforcement make less sense in developing countries than in industrialized market economies. Developing country agencies may not have the capacity to monitor and to tax emissions or damages directly. Taxes and subsidies on inputs and outputs can then, under certain circumstances, be effective in inducing abatement, even if they imperfectly mimic taxes on monitored emissions and damages. When monitoring and enforcement capacity is constrained, the better policy may be fuel taxes based on assumed emissions — or taxes or subsidies for equipment with different emissions characteristics. Indirect policy instruments like these can work well if they affect the profitability of abatement options without affecting other choices.

Any reform in developing countries must take into account how it affects the most vulnerable groups in society. For instance, poverty considerations may restrict the use of high fuel taxes if the poor spend much of their income on fuels. And privileged groups are often strong in developing countries and may block otherwise well-designed policies. These considerations are relevant when mechanisms for compensation are not well developed.

Eskeland and Jimenez emphasize the need to incorporate analysis of behavioral responses in the design of intervention instruments. Exploiting flexibility among consumers and producers is a key to containing environmental costs. Schemes that encourage self-compliance, such as deposit reform systems, should be considered.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to analyze environmental problems and policies in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Ann Bhalla, room N10-055, extension 37699 (60 pages).

625. How Trade and Macroeconomic Policies Affect Economic Growth and Capital Accumulation in Developing Countries

Ramon Lopez

A stable exchange rate is crucial to economic growth. Export promotion generates faster growth than import liberalization. Economic instability and foreign debt are key determinants of capital growth.

Lopez provides cross-country empirical evidence on the relationship between trade and macroeconomic policy and economic growth. He finds that:

- Countries that follow sustainable strategies perform better than those following unsustainable strategies. Indeed, unsustainable policies hurt growth. Sustainable policies (as in Korea, Taiwan, Singapore, Hong Kong, Thailand, and Malaysia) promote exports and lead to real exchange rates that are either fully aligned or even undervalued for prolonged periods of time but are relatively stable. Unsustainable policies (more common in developing countries) include policies that tax exports and overvalue exchange rates for extended periods, leading to periodic balance of payments crises and a highly unstable real exchange rate.
- Export promotion policies generate faster growth than policies that remove import restrictions.
- Economic instability and foreign debt are key determinants of capital growth.
- Contrary to conventional belief, capital accumulation appears to be stimulated by direct export restrictions and does not seem to be directly affected by economic instability.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a research effort in PRE, Trade Reform and Sustainability (RPO 675-32). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Karla Cabana, room N10-035, extension 37946 (30 pages).

626. The Macroeconomics of the Public Sector Deficit: The Case of Colombia

William Easterly

There is a close relationship between the means of financing the fiscal deficit and macroeconomic outcomes in Colombia. A debt-financed deficit increase of about 1 percent of GDP translates into a real interest rate increase of 3 to 5 percent; a money-financed deficit increase of about 1 percent translates into 15 percentage points more inflation.

Colombia is justly celebrated in Latin America for its prudent macroeconomic management, the cornerstone of which is careful management of fiscal deficits.

From the 1960s through the early 1970s, Colombia's macroeconomic policy was mostly conservative — supportive of an export-oriented development strategy associated with high growth of both GDP and trade. Authorities were partially successful at sterilizing a surge in coffee export revenues in the second half of the 1970s. In the early 1980s, the end of the coffee boom coincided with a large increase in public investment — especially in energy — which led to an incipient balance of payments and debt crisis. This crisis was largely avoided through a strong, continuing adjustment effort that began in 1985.

Episodes of loose fiscal policy in Colombia have been minor compared with other Latin American countries. The crisis of the early 1980s was cut short by a sharp fiscal adjustment. This adjustment was a combination of good luck and fundamental policy changes, especially the latter. To restore long-term growth, some fiscal reform will be needed to reverse some measure implemented between 1985 and 1989.

Easterly finds a close relationship between the means of financing the fiscal deficit and macroeconomic outcomes in Colombia. Using a simulation model, he traces how money-financed and domestic debt-financed fiscal deficits translate into inflation and the real interest rate.

Roughly speaking, a debt-financed deficit increase of about 1 percent of GDP translates into a real interest rate increase of 3 to 5 percent; a money-financed deficit increase of about 1 percent translates into 15 percentage points more inflation.

Easterly finds that many changes in the real exchange rate between 1975 and 1987 are attributable to fiscal policy. He shows how external debt financing and domestic debt financing have relatively different effects on the real exchange rate and the real interest rate.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of PRE research project, The Macroeconomics of the Public Sector Deficit (RPO 675-31). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Raquel Luz, room N11-057, extension 39059 (97 pages).

627. The Role of Institutions in Poverty Reduction: A Focus on the Productive Sectors

Sharon L. Holt

Institutional development is critical to growth and sustainable poverty reduction. Institutions that reach the poor and help them to participate in economic growth are typically flexible, involve intended beneficiaries, and employ a variety of government, nongovernment, and local organizations.

Holt contends that institutional development (ID) is critical to growth and sustainable poverty reduction.

Although there is no single model for poverty-oriented institutional development, and ID initiatives vary considerably across sectors and nations, important common lessons have been learned about successful institutional development initiatives. Holt presents these in terms of six components:

- Forming and strengthening local organizations.
- Supporting institutional pluralism.
- Building links between poverty-oriented institutions.
- Adopting the appropriate organizational structure and encouraging strong leadership.
- Adopting the learning process approach.
- Mobilizing local resources and the participation of poor people.

Both successful and unsuccessful programs are used to illustrate the importance of these components. Drawing on evidence from the Managing Agricultural Development in Africa (MADIA) study, Holt shows, for example, that because of a lack of adequate institutional links and information flows between small farmers and researchers, less than 5 percent of farmers in Malawi have adopted hybrid maize despite more than 30 years of maize-breeding work and 20 years of agricultural development projects.

But institutional investments often require unconventional, potentially costly programs and projects. ID initiatives have been criticized in terms of the costs and benefits of different approaches, the scale on which they can operate, their compatibility with conventional project frameworks, the degree and types of decentralization they require, and their political feasibility.

Using case studies from different productive sectors and subsectors such as the National Irrigation Authority in the Philippines and the Grameen Bank in Bangladesh, she illustrates how these objections may be unwarranted or overskeptical — that investments in institutional development can be both economically and politically viable.

This paper was prepared as a background paper for the 1990 *World Development Report* on poverty. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact the World Development Report office, room S13-060, extension 31393 (71 pages).

628. The Indonesian Family Planning Program: An Economic Perspective

Dov Chernichovsky, Henry Pardoko, David De Leeuw, Pudjo Rahardjo, and Charles Lerman

The intrauterine device (IUD) and (less so) the injectable are relatively cost-effective methods of contraception that could probably improve contraceptive prevalence. They both require capital investment and trained medical manpower — which are beyond the means and jurisdiction of Indonesia's family planning agency but would probably pay off, especially in improved health care.

A comparative analysis of three provinces in Indonesia indicates that the IUD and,

to less extent, the injectable, are methods that, if available, would probably be used and would contribute to high contraceptive prevalence.

Moreover, the IUD appears to be relatively cost-effective.

But the IUD (and to less extent the injectable) requires capital investment and trained medical manpower (which are beyond the means and control of Indonesia's National Family Planning Coordinating Board, BKKBN).

The relative delivery cost of different methods are inversely related to their efficacy — so the most cost-effective methods are also the most efficient — probably also in terms of demographic impact. Differences in the mean age of users for the IUD (32.5), pill (30), and injectable (29) are slight — so reproductive potential and risk of pregnancy are about equal among different user groups.

Clearly, altering the delivery system — particularly in favor of methods that require medical facilities and staff — requires investment in facility, staff, and the cost of initiating a new method. This merits a detailed cost-benefit analysis, as the data strongly suggest that such investments might pay off, especially because they would also improve medical care.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department of the World Bank, in cooperation with the Indonesian National Family Planning Coordinating Board, and the Ministry of Foreign Affairs of the Royal Government of the Netherlands. It is part of a larger effort in PRE to examine the economics of family planning. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (185 pages).

629. An Atheoretic Evaluation of Success in Structural Adjustment

Patrick Conway

Countries that followed a prescription of relatively low government spending, deep financial markets, and outward orientation in trade policy performed significantly better than those that did not when countries are ranked by adjusted economic performance.

Conway presents and implements a methodology for assessing the success of structural adjustment based on a "fixed effect" methodology.

He examines data for 75 countries over 11 years. Performance indicators include measures of inflation, economic growth, external balance, and physical investment. He measures government policies in terms of spending, trade regime, financial deepening, and real exchange rate policy.

The empirical estimates he obtains suggest that ranking countries by adjusted economic performance yields significantly different results than ranking them by historical performance.

Further, countries following a prescription of relatively low government spending, deep financial markets, and outward orientation in trade policy performed significantly better than those that did not.

This prescription was correlated significantly with more rapid economic growth, current accounts with lower deficits, expanded investment, and reduced inflation.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to identify empirical regularities in the nexus of economic performance and government policy for developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Dawn Ballantyne, room N10-025, extension 37947 (63 pages, with tables).

630. The Spirit of Capitalism and Long-run Growth

Heng-fu Zou

In the long run, cultural attributes and the spirit of capitalism help explain why Japan, the four Asian "miracles," and many countries with Protestant religion have succeeded economically.

Why do different countries have different long-term savings and growth rates? Why is the productivity rate not the same around the world? Recent new theories of endogenous growth have tried to answer these questions by replacing the usual assumption of diminishing returns in production. Zou offers an alternative: he introduces "the spirit of capitalism" (as Max Weber used the term) into the model.

In the long run, countries with different degrees of capitalist spirit will have different consumption, capital stock, and endogenous growth rates. In Zou's model (unlike traditional models), inflation is no longer superneutral in relation to long-run growth.

Zou provides a formal model that is supported by many empirical and historical studies on cultural attributes and economic development. His model helps explain:

- Why Japan and the four Asian "miracles" have succeeded.
- Why nations that had an established Protestant religion in 1870 had a per capita income in 1979 that was more than a third higher than in Catholic nations.
- Why British industry has declined since 1850.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to study long-run growth and economic policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-055, extension 37699 (28 pages).

631. The Macroeconomics of the Public Sector Deficit: The Case of Morocco

Riccardo Faini

Growth has remained relatively high in Morocco, and inflation subdued. Morocco has made great progress toward macroeconomic and fiscal stability, but the need remains for an unshaken commitment to fiscal discipline, a determined effort to reform the tax and public spending systems, and a measured attempt to make credit available for investment and to liberalize financial markets.

Morocco's recent economic history resembles those of many African countries. Morocco's economic difficulties originated in the commodity (phosphate) boom of the mid-1970s, which coincided with rising government spending and an unprec-

edented expansion of public investment — ending Morocco's earlier fiscal conservatism. A sudden reversal of the terms of trade in the late 1970s — a result of a plunge in phosphate prices and the second oil shock — prompted Morocco to resort increasingly to external capital markets to maintain an unabated level of public spending.

But the continued deterioration of the terms of trade and the unexpected rise in international interest rates, together with the severe drought of 1980-84, eroded debt service capacity and precipitated a major foreign exchange crisis in 1983.

In response to this crisis, Morocco launched a medium-term program of economic reform and introduced comprehensive stabilization and structural adjustment measures. Since 1983, Morocco has made great progress in alleviating both internal and external disequilibria — reducing the budget deficit from 9 percent of GDP in 1982 to 4.5 percent in 1988, and the current account deficit from 12 percent of GDP to 0.4 percent in the same period.

Interestingly, growth has remained fairly high in Morocco, at least in relation to other highly indebted countries, and inflation subdued. Morocco's performance seems to contradict the perceived wisdom that large budget deficits will foster inflation. The inflation record is particularly surprising because Morocco achieved a 20 percent real depreciation in the 1980s.

Faini argues that wage moderation and judicious monetary policies were instrumental in restraining inflation. With a brief exception in 1983, monetary authorities remained firmly committed to avoiding inflationary financing of the budget deficit. But this strategy could succeed only because of the wide-ranging system of credit and monetary regulations that channeled domestic funds toward the treasury at relatively low cost. But the prospects for continuing such a strategy are not favorable.

Growth performance can be attributed to an outstanding export response to the new trade regime and to favorable supply shocks — including a string of record agricultural harvests and the collapse of real oil prices.

Morocco has made great progress toward macroeconomic and fiscal stability but the author recommends:

- An unshaken commitment to fiscal discipline. Increased government spending will probably crowd out investment. The short-run benefits on output of such spending may be outweighed by its long-run negative impact on growth.
- A determined effort to reform the tax and public expenditure system, so the brunt of fiscal adjustment will not again fall mostly on public investment.
- Encouraging the availability of credit, which significantly influences the demand for investment.
- Studying the impact of macroeconomic equilibria, especially on the government budget, to assess the best speed for financial liberalization.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a PRE research project, The Macroeconomics of the Public Sector Deficit (RPO 675-31). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Raquel Luz, room N11-057, extension 34303 (39 pages).

632. The Macroeonomics of the Public Sector Deficit: The Case of Argentina

Carlos Alfredo Rodriguez

Argentina has had a quarter century without growth at a time of rapid economic growth in the rest of the world — and government spending systematically grows faster than GDP and exceeds government revenues. The central bank borrows about 80 percent of the private banks' lending power.

Argentina has had a quarter century without growth at a time of rapid economic growth in the rest of the world and government spending systematically grows faster than GDP. Spending declined when the final crisis of the Argentine economy began in 1982, but more because of resource constraints than deliberate political action — and too late to avoid the financial crisis that brought hyperinflation (approaching 5,000 percent in 1989). The government ran a primary deficit (not including interest payments) every year from 1961 to 1989, so it issued money and interest-bearing debt. As a result, the economy experienced high real interest rates and inflation.

Despite heavy fiscal pressure, fiscal spending has continued to grow, systematically exceeding revenues. From 1964 to 1975, the deficit was financed by creating money; with the fall of Peron and the beginning of a military regime, debt financing became significant. Rodriguez' regression study shows that every 1 percent of primary deficit is financed with 0.7 percent of revenue from creating money — the effect of collecting which is an additional 67.9 percent of inflation.

Public debt plays a peculiar role in Argentina's finances. The central bank has become the chief borrower of about 80 percent of the private banks' lending power. In this context, a policy of tight money to reduce aggregate demand basically increases the transfers from the public to the private sector because of the higher deficit that the rise in interest rates generates.

The pressure that government debt puts on the financial markets is best captured by evaluating that debt at the commercial exchange rate. When the stock of debt gets out of line with available reserves, pressures mount against the currency and devaluation follows. Then the remaining stock of debt rises at rates far beyond levels consistent with a fixed exchange rate — and a new crisis begins to develop.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a PRE research project, The Macroeconomics of the Public Sector Deficit (RPO 675-31). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Raquel Luz, room N11-057, extension 34303 (90 pages).

633. The Macroeconomics of the Public Sector Deficit: The Case of Thailand

Virabongse Ramangkura and Bhanupongse Nidhiprabha

Thailand's pattern of public expenditure finance — relying more on tax revenues and commercial and private borrowing, and less on central bank loans and money financing — has contributed to Thailand's macroeconomic stability. This year, the government proposes a balanced budget, after three years of fiscal surplus.

In the past, the Thai government usually ran a budget deficit. In recent years, the deficit has become a surplus. A continued high growth rate in the last three years produced an unexpected rise in tax revenues, and the growth of public spending was effectively controlled. The government has adopted an early retirement plan for foreign debts and in fiscal 1991, for the first time in recent history, the government proposes to balance the budget.

The central government's actual spending is usually below planned spending — which is overestimated during slumps and underestimated during booms. Tax capacity has increased gradually over time relative to GDP. This factor has contributed most to reducing the public deficit. There have also been more automatic stabilizers and a decline in dependence on foreign trade tax.

Thailand's pattern of deficit finance has contributed to macroeconomic stability. In times of high deficit, the government relies less on borrowing from the central bank and more on borrowing from commercial banks and the private sector. Money-financed deficits are more likely to exacerbate inflation and the current account deficit than any other method of deficit financing. The strong growth of the Thai economy is attributable partly to appropriate fiscal responses to external shocks. Stable prices helped facilitate the depreciation of the real effective exchange rate, further strengthening export and output growth.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a PRE research project, The Macroeconomics of the Public Sector Deficit (RPO 675-31). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Raquel Luz, room N11-057, extension 34303 (73 pages).

634. Trends in Developing Country Exports, 1963-88

Bela Balassa

Contrary to earlier theories, developed countries' imports from developing countries tend to grow faster than the developed countries' gross domestic product. And despite the alleged increase in developed countries' import barriers after 1973, their imports from developing countries have accelerated. Exports have grown most rapidly among outward-oriented developing countries.

Ragnar Nurkse and, subsequently, Raul Prebisch and Gunnar Myrdal expressed the view that developed countries' imports from developing countries tend to increase less rapidly than the developed countries' gross domestic product. It has been further suggested that this situation is aggravated by the decline of economic growth rates in developed countries and by their protectionist actions toward imports from developing countries. The conclusion has been reached that developing countries do not have favorable prospects in developed country markets.

The results that Balassa presents conflict with the earlier claims. His results indicate that developed countries' imports from developing countries tend to grow faster than the developed countries' gross domestic product. And despite the alleged increase in import barriers in developed countries after 1973, the growth of developing countries' exports to these countries accelerated during the period. A 1 percent rise in the gross domestic product of developed countries was associated with a 1.2 percent increase in their nonfuel imports from the developing countries in 1967-73, and the corresponding estimate is 2.6 percent for 1973-88.

Among groups of developing countries, exports grew more rapidly in countries that pursued outward-oriented policies. In turn, continual inward orientation led to losses in export market shares. These results are reinforced when individual countries are considered.

At the same time, the product composition of developing countries' exports of manufactured goods exhibits a considerable upgrading of exports between 1963 and 1988. There was a shift from wood products and furniture and the group of other industries to engineering products as well as changes in the product composition of several product categories.

Despite the operation of the Multifibre Arrangement (MFA), developing countries' exports of textiles and clothing grew only slightly less than the total manufactured exports of these countries. And the exports of wearing apparel that were supposed to be particularly affected by MFA limitations grew more rapidly than the overall average.

This paper — a product of the Office of the Vice President, Development Economics — has been prepared as a background paper for the *1991 World Development Report*. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact the World Development Report office, room S13-060, extension 31393 (37 pages, with tables).

635. Exchange Rates and Foreign Trade in Korea

Bela Balassa

Korea's exchange rate has had a greater effect than other domestic economic variables on its exports, which have been key to its outstanding economic growth. Thus Korea's use of the exchange rate as a policy variable makes good sense and should be continued as long as domestic and foreign inflation rates differ.

Korea's exports have made an important contribution to its outstanding economic growth. Its exports, in turn, have been affected by domestic economic variables, including exchange rate policy, and by external influences.

Among domestic economic variables, the exchange rate appears to have had a greater influence on exports than changes in export prices or changes in the prices of competing domestic goods. Taking into account that Korean exports are influenced by external factors, such as foreign export prices and foreign incomes, does not affect this conclusion.

Korean imports are affected by domestic income, the exchange rate, import prices, and the prices of competing domestic goods. Again, the influence of the exchange rate is greater than that of import prices and the price of domestic goods.

The results indicate that Korea can usefully employ the exchange rate as a policy variable. This has been the case during much of the 1965-88 period that Balassa considers, except for 1975-80, when it led to a substantial overvaluation of the currency. Korea should also use the exchange rate in the future as long as domestic and foreign inflation rates differ.

This paper — a product of the Office of the Vice President, Development Economics — is part of a larger effort in PRE

to examine exchange rates and trade policies in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Clare Cuskelly-Young, room S9-047, extension 39413 (16 pages).

636. Economic Integration in Eastern Europe

Bela Balassa

Among the alternatives for the future of the Council for Mutual Economic Assistance, its dissolution seems most appropriate in view of differences in the extent and speed of reform among its Eastern European members.

The Council for Mutual Economic Assistance (CMEA) was established by Bulgaria, Czechoslovakia, Hungary, Poland, Romania, and the Soviet Union in 1948 as a response to the Marshall Plan. But unlike the Marshall Plan it provided no financial assistance to its member countries and its activities were limited to trade in the framework of bilateral and multilateral negotiations. Because of centralized decisionmaking, the lack of price signals, and the bilateral balancing of trade flows, the CMEA countries failed to exploit their trade potential. And although the smaller CMEA countries benefited from receiving Soviet energy and raw materials at low prices in exchange for often poor quality manufactured goods, these gains were more than offset by the losses suffered because of insufficient technical change and the straightjacket of the socialist planning system.

For the future of the CMEA, four alternatives present themselves: maintaining the present arrangements, marketizing the CMEA, reforming the CMEA, and dissolving the CMEA. In view of differences in the extent and the speed of the reform efforts in Eastern European countries, the last alternative appears most appropriate. At the same time, the more developed CMEA countries should seek association with the EC, followed by membership.

For the transitional period, proposals have been put forward for establishing payments arrangements among the former CMEA countries. These proposals have little to commend them as they would involve providing credit on the basis of the mutual trade of the countries concerned rather than their total trade. And while clearing arrangements would bring some benefit, the countries in question should pursue the objective of convertibility.

This paper — a product of the Office of the Vice President, Development Economics — is part of a larger effort in PRE to examine reforms in the Eastern European socialist countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Clare Cuskelly-Young, room S9-047, extension 39413 (22 pages).

637. Poverty in Poland: 1978-88

Branko Milanovic

As a result of Poland's economic crisis, which began in 1978, the proportion of Polish people living below the poverty line increased from 10 percent to almost 20 percent. Farm and mixed (farm / nonfarm) households weathered the crisis better than workers and pensioners — probably because farmers could vary their crops and workers in mixed households could choose between work in socialized industry or private agriculture.

The economic crisis that began in Poland in 1978 significantly reduced the population's average incomes (about 20 percent by 1988) and increased the proportion of the population living below the poverty line by 10 percentage points. (It is significant that 3.1 million of the 7 million estimated poor in Poland are the "new poor.")

The composition of the poor has also changed. Before the crisis, most of the poor lived in rural areas; now 70 percent of them live in cities. This change occurred because of a sharp jump in poverty among workers in the socialized sector, whose real wages declined.

The most important direct cause of increased poverty in the second half of the 1980s was increased poverty in workers' households. The second most important cause was demographic: in shifting to retirement, some workers' households joined the ranks of the poor. The only group for which the incidence of poverty decreased was mixed households.

Until the end of the period studied (1988), no unemployment appeared. The wage bill was reduced by uniform cuts in real wages — so the wage and the overall distribution of income remained practically unchanged. The real income of pensioners' households decreased almost as much as that of workers' households.

Farm and mixed households weathered the crisis better than workers and pensioners. This was not so much because terms of trade between agriculture and industry improved, but because farmers and mixed households had more flexibility about economic decisions. Farmers could change the composition of their crops and mixed households could also vary their labor inputs between work in socialized industry and private agriculture.

This paper — a joint product of the Socialist Economies Reform Unit, Country Economics Department and the Country Operations Division, Country Department IV, Europe, Middle East, and North Africa Regional Office — was written as a background paper for the 1990 *World Development Report* on poverty. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact the World Development Report office, room S13-060, extension 31393 (25 pages).

638. Researching the Trade-Productivity Link: New Directions

James Tybout

No stable, predictable correlations have emerged in studies of how trade policy affects productivity growth but market concentration seems to be an important factor. Research also suggests that increased foreign competition tends to induce cuts in plant size, may improve technical efficiency, and appears not to be closely linked with firm entry patterns.

Tybout reviews the literature linking trade policy and productivity. He finds that:

- The literature on X-efficiency argues that exposure to foreign competition induces managers to make an extra effort to eliminate efficiency, but makes fragile assumptions about the labor supply and changes in work incentives.
- The literature on economies of scale argues that when domestic firms enjoy market power, extra competition from foreign producers can force producers to expand or exit — but the net effect of

liberalization depends on demand shifts, ease of entry or exit, and the nature of competition.

• Arguments involving technological catch-up are equally fragile. Uncertainty can lead producers to place a premium on flexibility that may mean sacrificing some productivity.

It is a mistake to think of productivity growth as an orderly shift in technology, says Tybout. Rather, the processes of learning, innovation, investment, entry, and exit are what matters. Trade orientation affects these processes through many channels, often by influencing entrepreneurial ability to monitor new technological developments or by changing the expected returns from innovation.

Figures on productivity should be approached with skepticism, he concludes. Problems of measurement error, disequilibria, and aggregation bias can easily create the illusion of trends and correlations that have no basis in the economic processes we hope to capture. But Tybout reports on two new directions in thinking about productivity growth.

The first is concerned with salvaging sectoral- and industry-level calculations by correcting for scale economies, adjustment costs, or noncompetitive pricing. These approaches still suffer significant measurement problems and aggregation bias, but give some sense of the robustness of growth series to violations of traditional assumptions.

The second new direction concerns how plant heterogeneity shapes sectoral productivity growth. New techniques from this infant (except for work on efficiency) field give a crude sense of the importance of entry, exit, and heterogeneity in shaping productivity growth patterns and some specifics on the nature of aggregation bias in industry studies.

Tybout concludes that no stable, predictable correlations have emerged, although in some countries and subperiods there is some association between trade flow patterns and indices of productivity growth at the industry level, even after correcting for several measurement problems. The effects of trade regimes on productivity growth seem to be related to market concentration, although the nature of this association is unstable.

Patterns of industrial evolution show a surprising diversity. In some economies, much of output fluctuation seems to come from the creation and death of plants; in others, size adjustments by incumbent plants are what matter. Further, there are systematic productivity differences between entering, dying, and continuing plants. So turnover patterns play an important role in shaping productivity differences.

The Bank's Industrial Competition, Productive Efficiency, and Trade project focuses on linking entry, exit, and adjustments in scale and technical efficiency with exposure to a particular trade regime. So far it appears that exposure to more foreign competition is not closely linked with patterns of firm entry, tends to induce reductions in plant size, and may cause some improvements in technical efficiency.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a PRE research project, Industrial Competition, Productive Efficiency, and Trade (RPO 674-46). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Dawn Ballantyne, room N10-023, extension 37947 (58 pages).

639. The High Cost of Protecting Uruguay's Automotive Industry

Wendy E. Takacs

Uruguay loses between $17 million and $35 million a year by protecting its automobile industry. Uruguayan consumers lose between $70 billion and $80 billion a year on automobiles, transferring $36 million to $44 million to domestic assembly operations and components manufacturers.

Domestic content requirements are regulations that mandate minimum percentages of domestic value-added, or domestic components for products sold within the country, or provide strong incentives to substitute domestic for imported inputs.

Australia, Canada, and many Latin American countries have used regulations of this type to foster a domestic motor vehicle industry. The result is often domestic assembly operations that import "kits" or sets of components from abroad and combine them with domestically produced components to produce a finished vehicle. Some countries superimposed export promotion policies on these domestic content requirements.

Takacs developed a model to investigate the distortions, costs, and transfers among groups caused by the combination of domestic content and compensatory export requirements. She applied that model to the protection scheme for Uruguay's automobile industry.

She found that the protective regime keeps vehicle prices and domestic production costs high and transfers large sums to special interest groups.

Higher finished vehicle prices encourage more output from domestic assembly operations, but domestic content and compensatory export requirements discourage domestic assembly. The net effect could either encourage or discourage domestic assembly operations, depending on the net impact of the regulations. In Uruguay, the effect is to encourage domestic assembly.

Part of the consumer loss from higher prices represents a transfer to the assembly industry; part a transfer to the domestic components manufacturers; and part is an efficiency loss because domestic production and assembly is costlier than domestic production and assembly on the world market.

Trade in this industry should be liberalized. It would be possible to do so gradually within the framework of the current protective regime. Care should be taken not to inadvertently increase effective protection of the assembly industry by, for example, phasing out domestic content and compensatory export requirements on kits faster than those on finished autos — thus temporarily encouraging domestic assembly.

This paper — a product of the Trade Policy Division, Country Economics Department — was prepared as background material for the joint UNDP/World Bank Trade Expansion Program, which provides technical and policy advice to countries that want to reform their trade regimes. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Dawn Ballantyne, room N10-023, extension 37947 (26 pages).

640. The Impact of Policy in African Agriculture: An Empirical Investigation

William Jaeger

Policy in Sub-Saharan African countries is linked with the region's agricultural performance. Exchange rate policies, high taxes on agriculture, and government control of export marketing are associated with the deterioration in agricultural export performance in 1970-87. And the policy reforms of the late 1980s — where sustained and effective — are linked with increased agricultural productivity.

Jaeger examines the relationship between government policy and agricultural performance in Sub-Saharan Africa between 1970 and 1987. Using newly compiled data enabling a wider range of empirical analyses, the study assesses the impact of policy distortions on productivity over time and across countries. It assesses export agriculture and food production separately.

The analysis confirms that the deterioration of Africa's agricultural exports during the 1970s and early 1980s was associated with agriculture's high levels of direct taxation and of indirect taxation through government controls and overvalued currencies. Government controls in the marketing and pricing of export crops have contributed to the deterioration in export performance. But the large *indirect* distortions and disincentives caused by exchange rate policies are what have distinguished African policy environments from those in non-African developing countries. Econometric results show that the responsiveness of agricultural exports to changes in incentives is moderate in the short run for countries exporting tree crops but more elastic in countries exporting annual crops.

The author also investigates Africa's chronic food crises and questions the conventional wisdom that rising food imports and declining per capita production reflect primarily a production problem. Econometric results indicate that most of the rise in Africa's food imports is associated with shifting demand toward imported foods, rather than a failure of supply. The main factors causing the shift in demand are increasing urbanization, higher import capacity, and exchange rate distortions that make imported food relatively cheap. When the variation of these factors has been taken into account, the remaining unexplained trend is only 1 percent a year, caused in part by declining international prices for wheat and rice.

Jaeger establishes a link between policy reforms and the improvements observed in agricultural performance in the late 1980s. Countries with favorable policy environments have performed better in the 1980s, on average, than those with unfavorable policy environments. This has been true both in agriculture and in overall economic growth. And in countries where policy reform programs resulted in significant and sustained improvements in incentives (for example, Ghana and Togo), productivity has improved substantially. But in countries where reforms have not led to improved incentives or where the improvements were short-lived (for example, Tanzania and Zaire), little response was observable.

This paper is a product of the Trade and Finance Division, Technical Department, Africa Regional Office. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Azeb Yideru, room J3-080, extension 34663 (69 pages, with figures and tables).

641. Intertemporal Substitution in Consumption: Evidence for Some High- and Middle-Income Countries

Karsten N. Pedersen

When credit constraints are taken into account, support is found for an optimizing life-cycle model of consumption for a group of high- and middle-income countries. These results suggest that consumption by individuals is best described when it is assumed that one part of individuals plans consumption in a classical optimizing fashion, and another part follows a more Keynesian plan, where consumer expenditures are related to current income.

Pedersen tries to find support for the life-cycle model of consumption in a sample of middle- and high-income countries. He puts forward an intertemporal model of consumption that allows credit rationing for a fraction of consumers (with credit rationing defined as constraints on consumption for lack of access to credit markets).

If consumers cannot borrow against human wealth and have no financial wealth, their consumption is limited to current income. But the fraction of consumers for whom credit is rationed changes over time, as monetary authorities apply different quantitative instruments and as financial markets evolve.

Assuming rational expectations throughout, Pedersen concludes that:

- Overall, the results support the life-cycle model of consumption. Not all intertemporal elasticities of substitution are estimated at significant levels. But first order conditions of the life-cycle model, often referred to as Euler equations, are estimated in well-behaved domains for all countries when terms of credit rationing are included. Thus, one part of consumers seems to plan spending according to expectations of future real interest rates and future income expectations, while another part is tied to the current level of income because of lack of credit opportunities. Also, tests seem to approve the assumed expectation formation. The axiom of the efficient market hypothesis is accepted at 5 percent for all countries but one, and the information set's orthogonality to consumption innovations is not violated for any country.
- There is more credit rationing in middle-income than in higher-income countries. And models for middle-income countries are estimated with more uncertainty (higher standard errors of regression), which may indicate that the assumption of a representative consumer is particularly vulnerable in the middle-income countries.

Despite the simplicity of the estimation specification, the raison d'etre for the life-cycle model of consumption is supported when a credit-rationing proxy is included. It is especially encouraging that Euler equations can be estimated even for highly inflationary regimes. More precise estimates of the intertemporal elasticity of substitution could be achieved by a more sophisticated mechanism for credit rationing. But introducing more parameters tends to complicate the estimation problem, diminishing the likelihood of arriving at a solution.

This paper is a product of the global modelling project in the International Economic Analysis and Prospects Division, International Economics Depart-

ment. The analysis here contributes to the specification of a North/South model with consistent intertemporal linkages that will serve the division's long-term forecasting and scenario analysis for outlook papers. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Milena Hileman, room S8-214, extension 31284 (16 pages).

642. How a Change in Brazil's Sugar Policies Would Affect the World Sugar Market

Brent Borrell

By changing its policy, Brazil could increase its sugar exports greatly. The world price would decline, but Brazil's sugar revenues would increase.

Although Brazil is the world's largest sugarcane producer, only one-third of the cane it grows is used to produce sugar; the rest is used to produce ethanol as fuel for automobiles. Still, Brazil is the world's fourth largest sugar producer. What would it mean for Brazil and for the world sugar market if Brazil were to shift largely away from ethanol to sugar production?

This question is of keen interest for the world sugar market because such a shift — although politically difficult — is possible. Brazil's system of controlling the sugarcane and sugar industries to ensure enough ethanol for domestic fuel needs is costly. With the border price of petroleum at $24 a barrel, for example, the shadow price of ethanol as a fuel substitute is about 4 to 5 cents a pound in sugar equivalent. (The world price of sugar is now 9 cents a pound.)

Borrell uses a nine-region trade model of the world sugar industry to study this question under both dynamic and stochastic simulations. Simulations were run on sustained increases in Brazilian sugar production of 0.5 million tons, 2 million tons, and 6 million tons. To examine the sensitivity of Brazil's influence on price at different phases of the world sugar price cycle, these sustained increases were simulated from two different start dates. Moreover, the model was run 60 times over the period 1985-2004, with different shocks representing random elements such as weather.

Borrell concludes that although Brazil could influence world sugar prices significantly in the short run, it could not influence them to its short- or long-term advantage by restricting production. Indeed, to the extent that Brazil could make world prices more stable by allowing its producers increased flexibility in production, removing existing production controls could provide not only substantial economic gains (in terms of increased exports to Brazil) but also more stable world prices. For other producers, there could be a tradeoff in terms of lower but more stable income.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to understand the impact of changes in countries' trade policies on world commodity markets. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Audrey Kitson-Walters, room S7-053, extension 33712 (30 pages).

643. Regional Integration among Developing Countries, Revisited

Andras Inotai

The formation of new, powerful economic and trading blocs and the transition to market economies in Central and perhaps Eastern Europe has fostered a trend toward new regionalism in the world economy — which the virtual failure of the GATT negotiations may speed up. To minimize economic losses and avoid marginalization, regional groups of developing countries must increasingly work out common positions and join one of the influential groups.

Economic integration among developing countries became an important policy issue in the 1960s and early 1970s. But although intraregional trade increased in some trading groups, it remained a modest share of total trade, tended to decline in the 1970s, and stagnated during most of the 1980s. In addition, ambitious plans for joint industrialization could not be implemented.

This failure could be attributed partly to the smallness of most of the markets, different political and economic policy orientations, the low level of economic, industrial, and infrastructural development, and similar production and export patterns. Also, serious problems arose in implementing the main objectives. Trade liberalization was blocked or substantially slowed down, highly protective barriers to trade remained untouched or were harmonized regionally, and controversy about the distribution of gains and losses could not be resolved. Dramatic changes in the world economy further affected the environment for regional integration and cooperation.

But the formation of new, powerful economic and trading blocs — such as the single market of the European Community, the U.S.-Canada free trade area; initiatives in the Pacific basin, and the transition to market economies in Central and perhaps Eastern Europe — seems to have fostered a trend toward new regionalism in the world economy. The virtual failure of the GATT negotiations may speed this up. To minimize economic losses and avoid marginalization, regional groups of developing countries must increasingly work out common positions and join one of the influential groups. Both factors require the gradual yet rapid dismantling of barriers to the free flow of production factors within regional groups.

New approaches to regional cooperation have emerged. Attempts to revitalize dormant regional groups, to form new blocs, and to set partly new priorities are on the increase. Trade is the most important element of the new initiatives, but assessments of the possibilities and limits of regional integration have changed since the 1960s.

Stabilization and adjustment policies have created more open, export-oriented, liberal, and competitive economies. Higher exports have generated more growth and regional demand. Industrial restructuring has improved competitiveness, attracted international capital and technology, and opened up areas of intra-industrial division of labor. Export-oriented economies have proved increasingly competitive in extraregional markets.

In most cases it was not the regional training but successful outward-looking policies that improved competitiveness within the region and resulted in higher intraregional trade volumes. The strengthening of the private sector and closer cooperation in infrastructure development (mostly the more efficient use of human resources) support the shaping

of an environment conducive to new opportunities for better regional trade.

Obviously, intraregional trade cannot become an alternative to trade flows that are basically oriented to the world market. But in the 1990s, intraregional trade and economic relations are likely to grow parallel to, or even at a higher rate than, extraregional contacts.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to study new developments in regional integration and their relation to trade strategies. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Dawn Ballantyne , room N10-001, extension 37947 (51 pages).

644. Trade and Payments Arrangements in Post-CMEA Eastern and Central Europe

Constantine Michalopoulos and David Tarr

Suggestions about how trade and payments can be arranged on an interim basis among the countries of the Council of Mutual Economic Assistance and the USSR now that the CMEA has collapsed.

The web of trade and payments arrangements binding countries of Eastern and Central Europe under the Council of Mutual Economic Assistance (CMEA) agreements is incompatible with these countries' recent commitments to move toward liberalized trade and currency convertibility.

But the importance to these countries' total trade of their trade with other CMEA members — and the apparent desire of the USSR and others to denominate all future mutual trade at international prices — poses a number of problems of transition for the countries of Eastern and Central Europe.

Michalopoulos and Tarr identify three broad problems in this connection:

• The breakdown of the CMEA arrangements has led to a serious breakdown of trade relations and reduced trade volume among former CMEA members. What interim arrangements can be introduced to facilitate trade?

• Denominating international trade at international prices implies changes in the terms of trade for each country in the system. Terms of trade for the USSR should improve because its main export to the CMEA — energy products — has been undervalued. But if payments are settled in hard currency, other countries of Eastern and Central Europe are going to require more financing at a time when they are already short on foreign exchange.

• All countries may not reach full currency convertibility in the near term, and old CMEA arrangements cannot continue so what interim payment arrangements can be made among these countries and between them and the USSR?

Michalopoulos and Tarr focus on possible interim institutional arrangements for trade and payments among previous members of the CMEA and how such arrangements can help address emerging imbalances in payments. They recommend the following:

• Fundamental trade reforms should allow Eastern and Central European enterprises autonomy to negotiate and conclude contracts directly with foreign firms or agents in the former CMEA countries, to be under no state obligation, and to bear the risk of their contracts. Competition should be encouraged by minimizing or eliminating licensing and price equalization and the monopoly trading privileges of foreign trading organizations. Trade should be at world prices and — until convertibility is achieved — denominated and settled in dollars (convertible currency).

• These countries' commitments to introducing competitive exchange rates and a degree of convertibility should be encouraged. Countries might not achieve convertibility at the same rate; the USSR in particular may lag behind. If so, multilateral clearing arrangements with strictly limited time settlements (no more than three months) may be a useful interim measure and can be established without outside contributions. Short settlement periods are certainly preferable to a system in which bilateral balancing of trade is forced.

• More ambitious payments schemes — patterned after the European Payments Union — are not desirable, as they may retard integration into the international economy and introduce distortions in the pattern of trade and the allocation of financing.

• Providing outside credit to support payments arrangements among Eastern and Central European countries is not recommended — whether such arrangements include or exclude the Soviet Union. Such credit helps countries finance intraregional balances, which have little economic justification and could result primarily from the participants' ineffective macroeconomic policies.

This paper — a joint product of the Policy and Review Department and the Trade and Finance Division, Technical Department, Europe, Middle East, and North Africa Region — is part of a larger effort in PRE and the Region to investigate the challenges of economic reform in Central and Eastern Europe. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Maureen Colinet, room S12-045, extension 34698 (31 pages)

645. Poverty, Policy, and Industrialization: Lessons from the Distant Past

Ben Polak and Jeffrey G. Williamson

In the first stages of an industrial revolution, real wage rates for unskilled workers grow only slowly (the poor benefit, but not proportionately). After that, real wages for the unskilled increase proportionately. Meanwhile, modern economic growth may erode traditional entitlements that serve as safety nets in preindustrial societies.

Pessimists say industrialization increased poverty; optimists say it didn't. Polak and Williamson argue that how much industrialization eradicates poverty depends on the form industrialization takes. Not economic growth by itself, but the processes and policies associated with different growth regimes make the poor poorer. The better we understand that, the better we can understand how contemporary economic growth may aid or impede progress in eradicating poverty in the Third World.

In a long essay (with many tables and figures), Polak and Williamson address two questions: First, what happened to the proportionate share of the population living in poverty, and to the living standards of the poor, during nineteenth century industrial revolutions? Second, why did poverty statistics behave the way they did?

They answer the first question by drawing on official statistics on poor relief

in England and America, combined with the famous poverty surveys done by Booth, Rowntree, and others. The evidence suggests that in the early stages of industrialization, the poor benefited less than proportionately from economic growth, but that rapid increases in real wages for unskilled labor subsequently led to significant improvement in the well-being of the poor.

In answering the second question, they identify and discuss four factors that might affect the poor during an industrial evolution:

- Inequality and the living standards of the poor will respond to technological events. In England and America, unskilled labor-saving technological progress initially tended to retard growth in demand for unskilled labor, inequality rose, and the poor failed to share proportionately in economic progress. But this process was quickly reversed: real unskilled wage rates grew rapidly, and poverty declined.
- The cost of living for the poor may rise, eroding their living standards in ways conventional income statistics may fail to capture. The cost of food and urban housing rose disproportionately, for example — and industrialization cheapened the goods the poor produced relative to the goods they consumed.
- The early stages of industrial revolutions may undermine both the earning potential of secondary unskilled workers and the secondary earning sources of primary unskilled workers. Polak and Williamson focus on how technical change affected the demand for old labor, child labor, and female labor — particularly the cottage or domestic industries that are important to some of the poor.

Modern economic growth may erode traditional entitlements that serve as safety nets in preindustrial societies. It may be convenient to think otherwise, but typically the poor in preindustrial European and North American societies were *not* supported by the family and private institutions. Much of the responsibility for the poor lay with the state and other formal, statelike institutions that intervened in food markets. Where laissez-faire policies were adopted during the Industrial Revolution — as in America and England — many of the poor, especially the extremely poor, became more vulnerable to adverse events.

This paper — a product of the Office of the Vice President, Development Economics — was prepared as a background paper for the 1990 *World Development Report* on poverty. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact the World Development Report office, room S13-060, extension 31393 (145 pages, with figures and tables).

646. The Developmental Effectiveness of Aid to Africa

Tony Killick

Aid to Sub-Saharan Africa has been less effective in promoting economic development than has aid to other regions. Policies in the recipient countries of Africa — though certainly not the only factor — play the most important role in determining aid's effectiveness. At the heart of the problem is politics, and the solution rests in the hands of the people of Africa.

Killick uses an informal analytical framework to assess the developmental effectiveness of aid to Sub-Saharan Africa. The framework provides a production function-type equation for determining income growth and conveys that:

- There are many influences besides aid on country economic performance.
- Domestic policies have a pervasive influence on the whole system.
- Aid also has an important influence, in raising import and investment capacity and in other ways.

Agency evaluations of the overall effectiveness of aid record fairly high levels of project success, but it is unclear how much weight should be placed on these results, particularly with respect to projects' ability to reach the very poor. A review of the literature on the effectiveness of adjustment lending programs shows that they help raise economic performance to some degree but less than dramatically. It is even less clear that they are socially cost-effective. The evidence on aid effectiveness favors a moderately positive but still rather tentative verdict.

The author presents evidence on aid in Africa that suggests that the high past levels of aid have been unable to prevent serious economic deterioration and that its effectiveness is considerably less than in other regions. Nor have donors been able to offer much assistance in African governments' design of development strategies. Case studies of Côte d'Ivoire and Ghana support the conclusion that there is much room for increasing the effectiveness of aid to Sub-Saharan Africa.

Determinants of the effectiveness of aid can be broken down into factors located primarily in recipient countries (the policy environment and institutional or absorptive capacity) and those relating primarily to conditions and policies in donor countries (the world economic environment and the policies and practices of aid agencies).

Recipient-country policies are the decisive influence on the effectiveness of program, sectoral, and project aid. Policy mistakes in particular have contributed to declines in export market shares and in saving and investment.

Absorptive capacity — the economic system's ability to put additional aid to productive use — is weakened by skill shortages, weak policies, institutional weaknesses, and budget constraints and recurrent costs. But of more fundamental importance are basic structural weaknesses of Sub-Saharan African economies and the adverse characteristics of some political systems and processes. A crisis of governance in some Sub-Saharan African countries is a fundamental obstacle to increasing the developmental effectiveness of the aid they receive.

The effects of the hostile *global economic environment* are often aggravated by donor-country policies, particularly the trends and policies that worsen Africa's terms of trade, debt-servicing burdens, and access to world savings. Some *donor-country policies and practices,* such as using aid to promote foreign policy or commercial objectives, reduce the quality of aid and thus its potential developmental value. Donor agency weaknesses further diminish the value of aid.

Killick suggests that the problem of aid effectiveness is not technocratic nor due to a shortage of advice. Politics lie at the heart of the problem. It is for the people of Africa to resolve their governance problems — and there are potentially important stirrings of political change. And although donors have to work with existing governments, they should be more selective in those they aid.

Political changes are needed to break the logjam on these issues of effectiveness, and the present state of world affairs

may facilitate the necessary reordering of policy priorities by donors and recipients. Engineering a fresh start in assisting the development of Sub-Saharan Africa countries should become the priority for the newly created Global Coalition for Africa.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to assess the availability and potential growth impact of alternative forms of external finance for Sub-Saharan Africa. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheilah King-Watson, room S8-040, extension 33730 (63 pages, with figures and tables).

647. Growth Rates and Aggregate Welfare: An International Comparison

Nanak Kakwani

An alternative procedure for calculating aggregate growth rates is developed, one more suitable for comparing different countries' welfare.

Kakwani explores the relationship between growth rates and changes in welfare, using alternative procedures for measuring growth.

The Bank and other organizations commonly compute growth rates by fitting a least-squares linear trend line to the logarithmic values of economic indicators for a period. But is the least-squares procedure appropriate for measuring people's economic welfare over time?

Kakwani develops a conceptual framework for deriving an aggregate growth rate from a welfare function defined in terms of levels of per capita incomes in different years. Using this function, he derives the welfare implications of alternative procedures for estimating growth. The new procedure captures all the desirable properties of a welfare function.

Kakwani also deals with the issue of aggregating growth rates over countries. If one is interested in judging the growth rates for all countries in Africa, for example, there are two drawbacks to using the country classifications developed for the *World Development Report*. First, the method depends on exchange rates with changes in welfare. Second, the *World Development Report* gives greater weight to the growth rates of richer countries (not necessarily the most populated ones), which is highly questionable for measuring welfare.

Kakwani proposes an alternative procedure for calculating aggregate growth rates, one more suitable for comparing different countries' welfare.

This paper — a product of the Welfare and Human Resources Division, Population and Human Resources Department — is part of a larger effort in PRE to develop measures suitable for tracing a country's development over time, with special emphasis on the welfare of the population. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Brenda Rosa, room S9-137, extension 33751 (62 pages).

648. Who Paid the Bill? Adjustment and Poverty in Brazil, 1980-95

M. Louise Fox and Samuel A. Morley

By choosing an expansionary fiscal path, Brazil traded growth in the middle years of the decade for inflation and a larger debt three years later. Fox and Morley look at the impact of that trade-off on poverty alleviation in Brazil, where in 1987 roughly 45 million people lived in households below the poverty line.

Against a regional record of negative per capita growth after the world recession and debt crisis of 1982, Brazil stands out as a model for a different path. By effectively failing to adjust internal demand to the decline in external funds, Brazil set records in its region in per capita growth and inflation between 1982 and 1988.

By choosing an expansionary fiscal path, Brazil traded growth in the middle years of the decade for inflation and a larger debt three years later. Fox and Morley look at the impact of that trade-off on poverty alleviation in Brazil, where in 1987 roughly 45 million people lived in households below the poverty line. (In Latin America, only Mexico has a total population greater than the number of poor people in Brazil.)

Macroeconomic policy affects few people directly. For most poor households, the labor market is the most important source of income, as they rarely own much capital. So Fox and Morley focus on the effect Brazil's policies had on its labor market.

Their counterfactual simulations suggest that Brazil could have dealt better with rising levels of poverty in the 1980s if it had been able to reach political agreement on a reduced level of consumption in either 1982-83 or 1985 (by reducing government spending or increasing taxes and thereby reducing private consumption).

This was difficult, as the loosening of authoritarian controls gave voice and power to new groups, bringing a rush of pent-up demand for consumption, especially government services. Ironically, the failure to exercise restraint in the early and middle years of the decade comprised growth for the rest of the decade, hurting all groups.

Brazil's wage policies in the 1980s strongly benefited formal sector workers, especially during the recession. In this Brazil's experience differs sharply from many other countries during stabilization. Moreover, during the recession, private sector firms did not reduce employment as fast as output declined — choosing instead to stockpile labor and sacrifice profits. The indirect effects (the income multiplier effects) appear to have been strong enough to have prevented real incomes in the informal sector (including agriculture) from falling relative to the formal sector. When private formal sector output increased in 1983-86, so did employment. If the government had not tried to protect the wages of lower-skilled private sector workers, firms would probably not have increased employment, but increased profits.

Brazil can stabilize and return to a sustainable growth path in the 1990s, contend Fox and Morley, if all groups (including the poor) suffer a short-run loss. This loss would be short-run *only if the stabilization is effective within a short time* and private investors become confident enough to invest again. The ultimate result should be higher employment and earnings and greater government ability to increase social services to the poor. A repeat of the stabilization failures of 1986-89 offers grim prospects for the poor.

In short, prospects for reducing poverty depend on what mechanism is chosen

to expand the private formal sector. In the 1970s and again in 1984-85, output growth in this sector brought both formal sector employment growth (higher paying jobs) *and* higher incomes in the informal sector — more so in the southern part of the country, where formalization is greater and where the private sector has a greater share of formal sector employment. Successful stabilization, adjustment, and growth should benefit the northeast but will probably do so less than in the south. And stabilization will be especially difficult for major cities in the northeast. Reducing poverty in this area will require policies that make growth more efficient at proverty reduction (improving the rate of trickle-down).

This paper — a product of the Country Operations Division, Country Department I, Latin America and the Caribbean Regional Office — was prepared as a background paper for the 1990 *World Development Report* on poverty. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact the World Development Report office, room S13-060, extension 31393 (45 pages).

649. An Observation on the Bias in Clinic-based Estimates of Malnutrition Rates

Margaret E. Grosh, Kristin Fox, and Maria Jackson

The bias in clinic-based estimates of malnutrition rates is large and variable in this sample.

Clinic-based data on malnutrition are the most readily available for following malnutrition levels and trends in most countries, but there is a bias inherent in clinic-based estimates of malnutrition rates.

Grosh, Fox, and Jackson compare annual clinic-based malnutrition data and those from four household surveys in Jamaica. The clinic data give lower estimates of malnutrition than the survey data in all four cases — significantly so in three.

The size of the bias was variable over time, so the clinic data were not a good indicator of either levels or trends in nutrition status.

This paper is a product of the Human Resources Division, Technical Department, Latin America and the Caribbean Regional Office. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Barbara Diallo, room I4-196, extension 30997 (12 pages).

650. Administrative Valuation of Soviet Agricultural Land Results Using Lithuanian Production Data

Karen Brooks

New land tenure arrangements in the Soviet Union require those who farm the land to pay for its use. But Soviet land markets are constrained or ineffective, and land use fees must be set administratively.

New land tenure arrangements in the USSR require that agricultural producers pay for land use. The current distorted pricing system and the absence of functioning land markets complicate land valuation, and slow the adoption of new property relations.

In a market economy that functions well, agricultural land would earn its approximate marginal value product in agricultural production. This value can be measured empirically from production data and can serve as an appropriate initial value for users' fees.

Brooks estimates marginal value products for land for 1,032 collective and state farms in Lithuania using farm-level data for 1986 and 1987 and compares the marginal value products derived from actual received producer prices with those derived from border prices with alternative assumed exchange rates for the ruble.

This paper — a product of the Agricultural Policies Division, Agricultural and Rural Development Department — is part of a larger effort in PRE to analyze the agricultural transition in former centrally-planned economies. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Cicely Spooner, room N8-039, extension 30464 (26 pages, with tables).

651. Taxation of Financial Assets in Developing Countries

Christophe Chamley

The administrative cost of implicit taxes on financial assets — seigniorage, reserve requirements, lending targets, and interest ceilings — is low. But the excess burden that stems from the misallocation of resources is probably a much higher fraction of revenues than that of other taxes.

In developing countries, most financial assets in formal markets are deposits at financial institutions. This potentially important tax base could be taxed at a low administrative cost.

When revenues of financial taxes are significant, implicit taxes dwarf explicit taxes. Chamley focuses on the implicit taxation of financial assets through seigniorage, reserve requirements, lending targets, and interest ceilings combined with inflation. The last instrument has often been overlooked, but it has generated more than a third of implicit revenues in some cases (Nigeria), by lowering the cost of government borrowing.

Tax revenues are difficult to measure because of regulations that prevent the use of market prices for computation and distort the meaning of some definitions. For some countries, the standard method of seigniorage grossly underestimates the revenue from financial taxation.

In Sub-Saharan countries, the impact of taxation is small and hard to detect when the financial burden is low. In countries with repeated experiences of high taxation, the impact has been substantial (more than 50 percent of revenues on the margin). In countries with more developed financial markets, such as Thailand or Indonesia, the excess burden of taxation is very large even for small values of the (implicit) tax rates.

The author discusses various sources of distortion but ignores potential impacts on the level of saving and the growth rate.

Although taxes on financial assets have a low administrative cost, the excess burden that stems from the misallocation of resources is probably a much higher fraction of revenues than that of other taxes.

This paper — a product of the Public Economics Division, Country Economics

Department — is part of a larger effort in PRE to reform taxes in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Ann Bhalla, room N10-055, extension 37699 (62 pages, with figures and tables).

652. Demographic Response to Economic Shock

Kenneth Hill

Economic downturns not associated with famine appear to have little short-term impact on mortality. Famines, whether associated with major economic downturns or not, appear to have major short-term effects on mortality.

The clear division of the world in the 1950s and 1960s into rich countries with low fertility and mortality and poor countries with higher fertility and mortality was used to support strongly held views that economic development was necessary for demographic change (particularly a decline in mortality) and that demographic change (particularly a decline in fertility) was necessary for economic development.

Cross-sectional relationships between mortality or fertility and economic indicators have been used to argue both for and against national or international health or family planning interventions. Policymakers want increasingly to know to what extent short-run economic fluctuations result in short-run demographic fluctuations.

Hill addresses this question with special attention to the possible effects on mortality of the Third World economic crises of the 1980s. He examines the historical record, working backward from the recent past to periods before the demographic transition.

The historical record, he concludes, does not support the existence of strong short-run responses in mortality to economic change and sometimes not even longer-term relationships. Clearly the strong cross-sectional relationship now evident between mortality and economic status must have arisen through some such long-term relationship. But fertility and mortality levels are low in Cuba and Sri Lanka, for example, despite less-than-impressive improvements in economic development.

Economic downturns not associated with famine appear to have little short-term impact on mortality. Famines, whether associated with major economic downturns or not, appear to have major short-term effects on mortality. Recent evidence for such a conclusion (including China in the late 1950s and possibly Ghana in the early 1980s) is bolstered by the historical record from Europe.

This paper — a product of the Office of the Vice President, Development Economics — was prepared as a background paper for the 1990 *World Development Report* on poverty. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact the World Development Report office, room S13-060, extension 31393 (29 pages).

653. The Effects of Option-Hedging on the Costs of Domestic Price Stabilization Schemes

Donald F. Larson and Jonathan Coleman

Whether a stabilization fund is hedged or not, it will inevitably generate large amounts of debt. But hedging the fund will make it more likely to survive in the short term.

Casual observation leads to the conclusion that commodity-stabilization funds tend to be short-lived. While some funds may have failed because of poor management or unwarranted political interventions, the stochastic components of commodity prices can generate insurmountable difficulties for even the most expert managers. By transferring price risk from domestic producers and consumers to government-backed stabilization funds, these programs generate welfare benefits that end abruptly when the funds fail.

In the context of a price-taking country stabilizing domestic prices through variable border tariffs, Larson and Coleman annotate the circumstances under which fund resources face large or unlimited liability and provide a simple strategy of hedging with commodity options to limit fund risk. Using stochastic computer simulations, the authors demonstrate that using financial options will generate positive net welfare gains for the government agencies backing the funds. These results are quite robust under a number of underlying assumptions. Positive net benefits stemming from fund hedging can occur even when the welfare gains to producers and consumers stemming from the stabilization program are small or nonexistent.

To the extent that international prices follow a log-normal random walk, the stochastic component of price variability can become overwhelming in relatively large samples of 500 observations increasing the error associated with price expectations and hampering the ability of fund management to determine long-run "reasonable" prices. While hedging techniques are perhaps more obviously useful when the stochastic component of price is large, similar risk benefits occur under simulations in which prices are deterministic and only international supplies contain a random component.

Hedging techniques will not render the funds immortal; they will generate revenue-based risk benefits for governments backing the funds, and can generate benefits to producers and consumers by extending the probable lives of the stabilization schemes.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to improve the developing countries' management of commodity price risks. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Dawn Gustafson, room S7-044, extension 33714 (23 pages, plus 19 pages of annexes).

654. Reflections on Credit Policy in Developing Countries: Its Effect on Private Investment

Mansoor Dailami and Marcelo Giugale

The joint effect of both the volume of credit and its price — that is, the interest rate — is relevant to firms' investment decisions. So effective credit policy in developing countries must take into account the influence of both the credit supply and the interest rate, not just one or the other.

Previous approaches to credit policy and its role in the stabilization and adjustment of developing countries have emphasized either the role of the availability

of credit or the role of its price — that is, the interest rate. Dailami and Giugale argue that effective credit policy in developing countries must take into account both interest rate and credit channels.

The authors develop their argument in the context of the link between credit policy and private investment, using a model of firms' investment behavior in an economy with

exogenous, time-varying borrowing constraints. The model incorporates a credit ceiling linked to the firms' net worth and the state of the credit market.

The state of the credit market depends on factors — such as credit and interest rate policy, regulatory and supervisory practices, and market sentiments — that banks consider in making lending decisions. These factors affect banks' decisions independent of a borrower's creditworthiness. Thus, in times of tight money, firms that would otherwise have received loans may be denied them and have to postpone or cut back investment plans.

Dailami and Giugale use their model to specify an equation relating aggregate private investment to aggregate output and to two credit market variables — the real interest rate and aggregate credit. They estimate the equation for five developing countries (Brazil, Colombia, India, Korea, and Turkey) using annual data for 1965-85, and test the joint significance of both interest rate and credit supply conditions. Their findings show that interest rates and credit volume exert a joint influence on the behavior of private investment in the countries examined.

This paper — a joint product of the Financial Policy and Systems Division, Country Economics Department and the Country Operations Division, Country Department III, Europe, Middle East, and North Africa Regional Office — is part of a larger effort in PRE to analyze the role of financial policy in the growth and adjustment process of developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Maria Raggambi, room N9-041, extension 37657 (28 pages, with charts, figures, and tables).

655. Interest Rate Policy in Egypt: Its Role in Stabilization and Adjustment

Mansoor Dailami and Hinh T. Dinh

Raising interest rates is clearly essential to the success of any stabilization and adjustment programs that Egypt undertakes. But to reduce the risks of higher interest rates to its distorted economy, and to increase the benefits, increases in interest rates need to be accompanied by other adjustment measures.

An appropriate interest rate policy is considered essential to the success of stabilization and adjustment programs that Egypt might undertake. The broad objectives of such a policy would include deregulating credit and investment, raising the interest rate, and developing a "core" short-term debt market to serve as a reference point for market determination of interest rates. And as the government moves away from a regulated environment of controlled credit and regulated investment toward a more liberal system, interest rates will be the prices that guide investment decisions and ensure allocative efficiency.

Dailami and Dinh describe some of the structural problems Egypt's economy has faced in the past decade and policy initiatives that the government has undertaken, and review the economy's financial sector. They analyze the role that interest rate policy could play in Egypt's stabilization and adjustment program, particularly how it would affect the outcomes of the important objectives of attracting workers' remittances, encouraging domestic residents to hold deposits in local currency, and increasing investment efficiency.

Interest rates clearly need to be increased. But the complexity and depth of the distortions in both the real and the financial sides of the economy tend to reduce the benefits of a sharp rise in interest rates and increase the pressure on a weak financial system. Of particular concern are the potential effects of higher interest rates on the investment performance of the business sector and the solvency of the banking sector.

The authors recommend that changes in the level and structure of interest rates be planned in several steps and carried out in conjunction with other adjustment measures, such as reducing the budget deficit, reforming public enterprises, and streamlining public investment. But the increases in interest rates should be high enough to mark a clear departure from past policies and to send the proper signal to economic agents.

This paper — a joint product of the Financial Policy and Systems Division, Country Economics Department and the Country Operations Division, Country Department III, Europe, Middle East, and North Africa Regional Office — is part of a larger effort in PRE to understand the role of financial markets in the stabilization and adjustment process of developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Maria Raggambi, room N9-041, extension 37657 (34 pages, with figures and tables).

656. Relative Deprivation and Migration: Theory, Evidence, and Policy Implications

Oded Stark and J. Edward Taylor

Evidence on migration in and from Mexico shows that people in relatively deprived households in their home village are more likely to migrate abroad than people in households that are better positioned in that village.

Stark and Taylor examine the importance of absolute income and relative deprivation incentives for internal and international migration in developing country households.

Empirical results, based on Mexican village data, support the hypothesis that households' relative deprivation in the village reference group is significant in explaining migration by household members to destinations where a reference group substitution is unlikely and the returns to migration are high.

Independent of relative deprivation, village households wisely pair their members with the labor markets in which the returns to their human capital are likely to be greatest. The results suggest that a specific type of migration constitutes a response to a specific configuration of variables, and the role of relative deprivation appears to differ for internal and international migration.

Taking relative deprivation into account when studying migration is shown

to have important implications for development policy. For example, economic development that does not redress intravillage income inequalities may become associated with *more* migration.

This paper — a joint product of the Welfare and Human Resources Division, Population and Human Resources Department and the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to identify factors underlying rural change and rural economic performance. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Maria Paz Felix, room S9-109, extension 33724 (42 pages).

657. Distributional Aspects of Debt Adjustment

Ishac Diwan and Thierry Verdier

Because external debt repayments have distributional implications in the debtor country, domestic politics affect the formulation of the debt strategy. And domestic opposition to heavy debt repayment can be a blessing for debt negotiators — who are likely to get better deals with creditors as a result.

Diwan and Verdier explore how the formulation of debt repayment policies can be affected by the nature of the decisionmakers and the strength of various interest groupsMost models of debtor countries assume that all individuals in the economy are alike or that gainers compensate losers; most analysis ignores political considerations. But recent electoral campaigns in Latin America suggest that debt policy may have important distributive implications.

Diwan and Verdier argue that small penalties can be enough to deter default if they hurt the interests of groups that are closely associated with policymakers — especially when the costs of debt service can be shifted to groups with less influence on decisionmaking.

They focus on how debt policy affects domestic conflict between labor and capital, between import substitution and export promotion sectors, and between traded and nontraded goods sectors. Debt service requires austerity, which is distributed unequally; capital is better able than labor to move abroad and thus evade taxes — and with the expectation of higher taxes, capital is more likely to flee, reducing capital stocks. Meanwhile, to generate foreign resources, traded goods must expand, which requires a real devaluation; this generates a conflict with nontraded goods.

Diwan and Verdier argue that:

- Governments backed by constituencies from nontraded goods sectors are more likely to default.
- Without capital mobility, capitalists in import substitution will tend to oppose the repayment sought by capitalists in export promotion. Workers' interests will depend on imports' share in their consumption basket.
- With capital mobility, labor will oppose the extent of debt repayment sought by capitalists in both import substitution and export promotion sectors.
- Self-fulfilling external default with heavy capital flight is more likely when the default penalty is inelastic and when a left-wing government is in power.
- Assuming perfect bargaining, governments with constituencies that oppose heavy debt repayment can get better deals with creditors than governments supported by groups that favor more debt adjustment. Opposition at home can be a blessing for debt negotiators, as could be seen by the last Venezuelan rescheduling agreement (which followed street riots over price increases) and the recent Mexican debt relief agreement (which followed a very close election).

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to understand the determinants of debt repayments by highly indebted developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 33730 (31 pages).

658. Fiscal Policy with Fixed Nominal Exchange Rates: Côte d'Ivoire

Christophe Chamley and Hafez Ghanem

Côte d'Ivoire's increase in debt in the 1980s (from 30 percent of GDP to 100 percent) did little for new investment, because the investment-GDP ratio barely compensated for inflation. The country's fiscal stance hurt the real exchange rate and international competitiveness.

Côte d'Ivoire represents an ideal opportunity for a case study of the effects of fiscal policy in a developing country with a fixed exchange rate. For the last 15 years, the growth of the Ivorian economy has been dramatically affected by both exogenous factors and the responses of fiscal policy.

After a commodity boom in 1976-77, expansionary fiscal policies increased the price of nontradable goods relative to tradable goods. Government deficits induced large external deficits.

Chamley and Ghanem analyze the structure of government spending and revenues to investigate whether there is a relationship between the large government deficits and the Ivorian economy's poor performance during the 1980s. They also examine what factors determine the real exchange rate and the external balance.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a PRE research project, "The Macroeconomics of the Public Sector Deficit" (RPO 675-31). Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Raquel Luz, room N11-057, extension 34303 (65 pages).

659. Inflation and Growth in the Transition from Socialism: The Case of Bulgaria

Andrés Solimano

A fragile political-macroeconomic equilibrium is bound to result in high inflation in the transition from socialism. The collapse of growth in Bulgaria is the result of cuts in oil deliveries from the Soviet Union and Iraq, domestic dislocation in the supply of inputs following the dismantling of central planning, and the contraction of the Soviet market.

Bulgaria's shaky macroeconomic situation is a serious obstacle for a smooth transition from central planning to markets. It has to correct large current account deficits with the convertible currency area. It also has to eliminate in-

flationary pressures and large price distortions. And it has to get into a path of sustainable growth.

The links between inflation, money velocity, the money overhang, and the fiscal deficit are crucial for assessing probable inflationary trends in Bulgaria. Solimano shows that with controlled prices and financial repression, low velocity keeps inflation at an artificially low level despite large fiscal deficits. But as prices are deregulated and the financial sector is reformed, velocity can be expected to increase — due to expectations of higher inflation and financial innovation.

Solimano uses cost-determined price equations to explore the effects on domestic prices of a devaluation of the leva and an increase in the price of foreign inputs imported from the Soviet Union and other CMEA countries. The input price shock has a bigger effect on internal prices than does an equivalent devaluation.

The supply response to changes in relative prices and market incentives is likely to face at least two major problems at a micro level. First, the rules of operation for firms in the productive sphere are still dominated by enterprises operating under soft budget constraints — with little price responsiveness. Second, in a setting of monopolistic competition, where individual firms have considerable market power, full price deregulation may reduce output.

Bulgaria's moves toward a market economy are likely to affect growth through several channels. The correction of macroeconomic imbalances — cutting imports and cooling aggregate demand to dampen inflationary pressures — will contract aggregate economic activity. Reforms of the incentive structure will make part of the capital stock economically obsolete, hampering productive capacity in the short run. The response of private investment to the new incentives will be highly sensitive to macroeconomic stability and the perceived probability that the reform process will last and consolidate. Otherwise, private investors will wait before acting, delaying the resumption of growth. Given these impediments, external support in the form of new financing and direct investment will play a major role in consolidating the reform and in the resumption of growth.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to conduct research on reforming socialist economies. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Emily Khine, room N11-067, extension 37471 (51 pages, with tables).

660. The Development of the Colombian Cut Flower Industry

José A. Mendez

The Colombian cut flower industry is one of the major development success stories of the last 20 years, growing from small beginnings in 1966 to the world's second largest exporter of cut flowers in 1980. The industry also has become a major employer of low-skill female labor.

The Colombian cut flower industry is one of the major development success stories of the last 20 years. The industry scarcely existed in 1966 but developed rapidly.

By 1980, Colombia was the world's second largest exporter of cut flowers after the Netherlands, accounting for 8 percent of the world export supply of cut flowers, and it continues to hold that position.

This rapid development has made the cut flower industry a major contributor to the Colombian economy. Cut flowers are now the nation's leading nontraditional export and fourth largest earner of foreign exchange after coffee, petroleum, and bananas.

The industry also has become a major employer of low-skill, largely female labor drawn from the low-income areas surrounding Bogota. In 1989, the industry employed more than 70,000 workers and generated another 50,000 jobs in such ancillary industries as packaging and transportation.

Evolution of the Colombian cut flower industry illustrates how the market system enables a society to coordinate its economic activities in the most effective way. Historically, cut flower production moved from the eastern United States to the western and southern states and then to Colombia.

In both cases, development of air transportation made markets accessible within hours from anywhere in the world. This freed growers to shift production to areas with favorable land and labor costs as well as a good growing climate.

In the United States, consumers have benefited from the greater variety, lower prices, and wider availability of flowers. The U.S. economy also has benefited from the employment opportunities created by the necessity to handle and care for the increased volume of flowers at the wholesale and retail level.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the economics of the emergence of "fairness" as a standard for regulating international trade, its implications for the continued openness of the international trading system, and its continued functioning as an important vehicle for development. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Nellie T. Artis, room N10-013, extension 37947 (35 pages, with tables).

661. The Bretton Woods Agencies and Sub-Saharan Africa in the 1990s: Facing the Tough Questions

Richard E. Feinberg

The International Monetary Fund and the World Bank face a complex development challenge in Sub-Saharan Africa in the coming decade. The World Bank should take the lead in organizing external assistance efforts and structural reform programs in this region.

Both the International Monetary Fund and the World Bank recognize that Sub-Saharan Africa represents a difficult and complex development challenge.

Feinberg proposes that the Bank and the Fund take four institutional steps to deal effectively with the region's problems in the near term:

- The agencies should reconsider their planned net capital contribution to help overcome the region's severe foreign exchange constraints. A negative resource transfer could weaken the influence of the multilateral agencies and tighten the financial straitjackets already crippling many countries in the region.
- The Brady proposals represented a major conceptual step forward toward alleviating the private debt overhang that seriously burdens at least a dozen countries in the region. Additional efforts to

reduce the private debts of the low-income countries will be needed to achieve the objectives of the proposals.

• The Bank's analysis of the problems facing the region argues for a faster and more comprehensive reform program. In the 1990s the Bretton Woods agencies will face increasing pressures to give more weight to issues of social equity and political variables.

• The Bank and the Fund will have to improve their ability to work together to maximize their effectiveness in the 1990s. One way to achieve more effective cooperation between the agencies would be for them to synchronize their policies on such issues as resource transfers, commercial debts of middle- and low-income countries, and economic and political conditionality.

The World Bank and the IMF should collaborate in long-term planning for Sub-Saharan Africa. Policy Framework Papers should go beyond the three-year horizon that current procedures now dictate and plan some issues for five to 10 years.

The Bank and the Fund should unite in an effort to produce strategic plans for the entire region to guide their own work and to give clear signals and realistic expectations to the region. The nations of Sub-Saharan Africa also should play major roles in designing these programs.

Collaboration will proceed more smoothly if one institution clearly has the lead — and, in this region, the World Bank rather than the IMF should take the lead in organizing external assistance efforts and policy reform programs. Such an approach would be consistent with the 1989 decision to give the World Bank primacy over structural matters.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to assess the availability of external resources to support African adjustment and growth in the 1990s. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheilah King-Watson, room S8-040, extension 33730 (32 pages, with tables).

662. Trends in Social Indicators and Social Sector Financing

Jacques van der Gaag, Elene Makonnen, and Pierre Englebert

Social indicators since 1960 show the quality of life improving in developing countries as a group. The aggregate picture masks substantial differences.

Over the past three decades, per capita GDP has increased worldwide. Van der Gaag, Makonnen, and Englebert examine whether this has resulted in better quality of life in developing countries. Their paper documents the evolution of social indicators (health, education, nutrition), private consumption, and government expenditure on the social sectors.

The authors conclude that developing countries made uneven progress in the quality of life in the period under study. Among the key findings:

• Health indicators (mortality, immunization coverage, life expectancy) showed stable improvements in all regions, but Africa's rates were the slowest.

• Of all social indicators, education made the greatest gains. In Africa, however, net enrollment ratios actually decreased in the 1980s.

• While developing nations as a group enjoyed improved indices of undernutrition in 1965-85, the degree of undernutrition worsened in more than one-third of Sub-Saharan African countries.

• The two regions characterized by economic difficulties in the 1980s — Africa and Latin America and the Caribbean — also saw declines in average per capita private consumption during that decade.

• The share of total government expenditure on health remained stable in all regions, but that of education declines in Africa, South Asia, and Latin America and the Caribbean.

The authors also note that any effort to assess trends is severely hampered by lack of information. The quality of existing data is not systematically trustworthy, and there are many gaps. The World Bank and most bilateral and multilateral agencies are placing increasing emphasis on monitoring the impact of programs. The need for simple, up-to-date data may trigger more vigorous data collection.

This paper — a product of the Welfare and Human Resources Division, Population and Human Resources Department — is part of a larger effort in PRE to improve knowledge on trends in poverty and its correlates: malnutrition, illiteracy, illness, and premature death. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Brenda Rosa, room S9-137, extension 33751 (129 pages, with tables).

663. Bank Holding Companies: A Better Structure for Conducting Universal Banking?

Samuel H. Talley

Would bank holding companies be a better structure to conduct universal banking? The device contains some important advantages, but the evidence now is limited and unacceptably high risks for banks could be one result.

Banking systems in many countries have become increasingly unstable in recent years. At the same time, market forces have pushed banks to expand into a variety of universal banking activities, including some that appear to involve higher risks than traditional banking operations.

Talley notes that these trends have prompted questions about whether restructuring banking organizations might permit them to pursue universal banking activities without impairing the stability of the banking system.

The basic bank holding company proposal contains three major elements:

• Any bank that wants to operate as a universal bank must first form a holding company and then conduct all riskier activities in holding company units rather than directly in the bank. The bank would continue to engage in traditional banking activities that involve the usual levels of risk.

• The government would develop laws and regulations designed as safeguards to insulate the bank from any financial problems that might occur in holding company affiliates of the bank.

• Bank regulatory authorities would impose little or no supervision on holding company units. Instead, the marketplace would discipline the financial affairs of these affiliates.

The use of the bank holding company device to conduct universal banking activities can promise important public benefits including: (1) a sounder commercial banking system, (2) less banking regulation, and (3) greater competitive equality between banking and nonbanking units.

One major objective of using holding companies to conduct banking activities is to preserve banking stability. The evidence is inconclusive on whether holding companies could achieve this goal.

The major risk is that policymakers may tend to assume that safeguards protecting banks are invulnerable and allow holding companies to engage in risky activities they would never consider permitting banks to conduct. If holding companies encountered serious problems because of unduly high risks, banks affiliated with them could experience serious damage as a result.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in PRE to explore ways to increase the soundness of banking systems. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Zena Seguis, room N9-005, extension 37665 (24 pages).

664. Should Employee Participation Be Part of Privatization?

Barbara W. Lee

Employee participation has grown rapidly in many developed countries, but it is only beginning to emerge as an element in the economies of developing nations. Evidence shows that employee ownership and other forms of employee participation can ease privatization.

Employee participation in the financial and managerial aspects of firms has increased as governments and owners have tried to enhance productivity, broaden ownership, or facilitate privatization transactions.

Many developed countries are experiencing rapid growth in schemes to introduce or enhance various forms of employee participation. For example, about 11,000 firms employing 11 million workers in the United States have some form of stock ownership for employees. About 10 percent of all employees in the U.K. are eligible to participate in share ownership plans.

An estimated 500,000 employee profit-sharing plans exist in the U.S., and participatory plans are a major element in the industrial policy of such countries as Japan and Sweden. In developing countries, plans for employe participation have emerged only recently.

The effect of employee participation schemes on firm performance is mixed. Without privatization, evidence is strong that combining employee ownership or profit sharing with some direct participation produces a positive impact on firm performance. Under privatization, by contrast, there is no evidence that employee ownership alone will contribute to improved performance.

Employee ownership and other forms of participation do appear to ease privatization. Employee ownership provides a sense of security to employees that the risk of redundancy in the firm after privatization will be less. As a result, the opposition of labor may decrease.

Where layoffs do occur after privatization, share ownership may complement a severance package. Share ownership also may mute worker opposition to privatization in those countries where employees believe that they have some right to ownership in the firm, primarily in socialist and post-communist countries.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — is part of a larger effort in PRE to assess the lessons of experience in privatization. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Gloria Orraca-Tetteh, room N9-069, extension 37646 (26 pages).

665. Microeconomic Distortions: Static Losses and their Effect on the Efficiency of Investment

Ramón López

Trade distortions can reduce the social efficiency of investment. Even a moderate, uniform tariff of 50 percent could reduce the efficiency of investment by almost a quarter.

In the past decade the developing countries have tried much harder to achieve macroeconomic stability than they have to eliminate inefficiencies from microeconomic distortions.

López has pursued a relatively new line of inquiry in examining measurement of the social income losses induced by the reduction of the investment efficiency caused by trade distortions.

Empirical findings of the study suggest a strong negative effect of trade distortions on the social efficiency of investment. Even a moderate, uniform tariff of 50 percent could cause a reduction in the efficiency of investment of up to 23 percent compared with a 0 percent tariff.

The (social) income losses caused by the reduced investment efficiency are considerable. Countries that have a moderate investment ratio (about 20 percent of GDP) can experience social income losses in excess of 18 percent in 30 years if tariffs are about 50 percent.

The existence of labor market distortions causing unemployment may increase the social value of capital. Capital accumulation moves the economy closer to the production possibility frontier by increasing employment.

This study confirms earlier findings about the relatively modest efficiency losses caused by the independent effects of specific distortions. López also found, however, a significant synergistic effect when trade and wage distortions coexist and lead to larger efficiency losses.

The key issue is the combination of price distortions favoring capital-intensive activity with wage distortions that cause unemployment and underemployment. This pattern of distortion is pervasive in developing countries.

This paper — a product of the Trade Policy Division, Country Economics Department — was prepared as a background paper for the *1991 World Development Report*. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact the World Development Report office, room S13-060, extension 31393 (36 pages).

666. Agriculture and the Transition to the Market

Karen M. Brooks, José Luis Guasch, Avishay Braverman and Csaba Csaki

The costs of food in Central and Eastern Europe during today's political and economic transition are quite high. Reducing these costs will be a difficult task involving restructuring farms and fostering competition in processing and distribution.

Agricultural sectors in Eastern and Central Europe are large so that changes in producer prices, farm employment, and land ownership affect substantial numbers of people.

In the past, food in the region was highly politicized. For decades, governments of Eastern European countries and the USSR offered their citizens stable, subsidized food prices and a steadily improving diet in an effort to demonstrate the superiority of communism over capitalism.

During the transition, the context has changed, but food remains politicized. Many consumers in the region are ill-prepared to pay the real costs of food, which are quite high. The task of reducing those costs will be difficult, involving restructuring of farms and fostering competition in processing and distribution.

Management of the agricultural transition in Eastern and Central Europe will affect the political sustainability of the process and influence agriculture's contribution to the growth of emerging market economies.

Technological considerations argue in favor of rapid restructuring and sale of farms. The new owners might choose to manage their lands jointly, and the restructured farm might look from the road much like its predecessor, but managerial and financial responsibility would be quite different.

Although the agricultural sector of all Eastern and Central Europe is large, Soviet agriculture dwarfs it in its impact on the region and the world. A positive program to stop the decline in Soviet agriculture could contribute to economic growth and political stability in the region and in the world. Failure to remedy the fundamental flaws in Soviet agriculture will speed the country's slide into poverty and ethnic turmoil — and undermine the efforts of Central and Eastern Europeans to succeed.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to address issues related to the economic transition in Eastern and Central Europe. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Cicely Spooner, room N8-037, extension 30464 (25 pages).

667. VERs Under Imperfect Competition and Foreign Direct Investment: A Case Study of the U.S.-Japan Auto VER

Jaime de Melo and David Tarr

Protection of domestic industries through nontariff barriers generally produces unintended effects. The developments that followed the agreement between the United States and Japan on autos demonstrate the complexity of the voluntary export restraint mechanism.

In 1981, the United States induced the Japanese to agree to a voluntary export restraint (VER) on their exports of autos to the United States. Using a general equilibrium constant return to scale model, de Melo and Tarr first assess the costs of the U.S.-Japan agreement at about $10 billion.

The two countries negotiated the VER against a background of falling U.S. production and employment in the auto industry and several legislative attempts to curb Japanese imports. The Japanese agreed to limit their U.S. exports to 1.68 million vehicles a year for a three-year period.

The study found that U.S. auto dealers captured some of the rents from the VER and that increasing returns to scale in the U.S. auto industry imply that protection has an effect on scale efficiency.

From 1984 to 1987, seven Japanese auto manufacturing firms established assembly plants in the United States. De Melo and Tarr argue that the VER generated pure profits in the domestic auto industry which induced the Japanese producers to enter the U.S. domestic market through foreign direct investment. Their entry then largely eliminated the abnormally high profits.

The study sequentially introduces into the model the important elements of the auto industry and the VER, thereby isolating the impact of each on the estimates of the welfare effects of the VER. In the most reasonable representation with increasing returns to scale, pure profits, internationally mobile capital, and endogenous conjectures, the estimate of the welfare costs of the VER are $9 billion; this is $1 billion or 10 percent less than the estimate from the constant returns to scale model.

The impact of foreign direct investment was to lower the costs of the VER because the greater entry into domestic auto manufacturing resulted in a lower quota rent premium for foreign autos. The costs per job protected in the auto sector, at the expense of employment elsewhere, were high, ranging from $164,000 to $296,000 a job a year.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the effects of trade policy on industrial efficiency. Copies are availabe free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Dawn Ballantyne, room N10-033, extension 37947 (42 pages).

668. Inflation Tax and Deficit Financing in Egypt

Hinh T. Dinh and Marcelo Giugale

Egypt is able to exact an exceptionally high inflation tax without causing high inflation because of the private sector's large financial holdings. Causes for these large holdings are complex and include money illusion, foreign exchange restrictions, and financial repression. Because of the reliance on the inflation tax — which makes Egypt's overall tax regime fairly regressive — any liberalization of financial markets would put pressure on domestic prices, if the underlying budget deficit cannot adjust fast enough.

Although Egypt's budget deficit is far above the level found in other low-middle-income countries, the inflation rate in Egypt has never been very high. This is because the country has managed to finance these budget deficits by resorting to an inflation tax that, at 11 percent of GDP in 1987, constitutes a large share of total tax revenues. By contrast, conven-

tional tax revenues come to only 17 percent of GDP.

Dinh and Giugale report a large, underlying inflation-tax base — from which the Egyptian government has collected substantial revenues — that exists because of money balances held willingly or unwillingly by the private sector. Egyptians have opted to hold underperforming domestic currency deposits for a variety of reasons: restrictions on domestic residents' freedom to legally convert Egyptian pounds into U.S. dollars; a limited black market; high insurance costs for the average investor of maintaining assets in other forms, such as gold; and a mild money illusion in the early 1980s.

The authors find that the private business sector, with a net borrowing position of 14 percent of GDP, has benefited from the inflation tax. Households, on the other hand, pay more of the inflation tax than other sectors, turning over 8 percent of GDP to the government this way. This compares with 0.5 percent of GDP that households pay in income tax. Although income tax in Egypt is fairly progressive, the greater reliance on the inflation tax makes Egypt's overall tax structure fairly regressive.

Dinh and Giugale argue that —

- Money illusion cannot last forever —if inflation begins to increase, Egyptian households will ultimately move out of underperforming domestic assets, creating strains on the banking system.
- If foreign exchange and interest rate controls are lifted — as part of an adjustment program, for instance — and if the budget deficit fails to adjust fast enough, the large base for the inflation tax will disappear, leading to a rise in inflation rates to near Latin American levels.
- Understanding the role and size of the inflation tax in Egypt will help in determining the sequencing and equity aspects of any future reform program.
- The financial side cannot continue to bear the burden for the real side; Egypt must move swiftly to cut its budget deficit, the underlying cause of its dependence on the inflation tax.

This paper is a product of the Country Operations Division, Country Department III, Europe, Middle East, and North Africa Regional Office. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Luqui Santano, room D7-039, extension 80553 (29 pages, with tables).

669. Are High Real Interest Rates Bad for World Economic Growth?

Nemat Shafik and Jalaleddin Jalali

The conventional wisdom says yes. But close examination suggests the answer is not nearly so clear-cut.

There is a conventional perception that high real interest rates are bad for economic growth. However, Shafik and Jalali show that close examination of the experience over the last 40 years undermines the existence of such a relationship. For much of the 1950-79 period, ex-post real interest rates were less than the growth rate of income in the major economies, whereas the 1980s were a period of rapid growth in the world economy that coincided with unprecedentedly high real interest rates.

Shafik and Jalali review the competing explanations for the high real interest rates of the 1980s. These explanations include the U.S. budget deficit, restrictive monetary policies in the OECD, a decline in global savings, a boom in investment, and higher risk premia. The merits of each explanation are reviewed in light of the empirical evidence.

The authors stress that the critical question is whether real interest rates have had an adverse effect on economic growth, not why they have been high in the recent past. To test this, the literature on cointegration is used to explore whether world interest rates and growth rates equilibrate in the long run. The econometric evidence disputes the view that high interest rates are associated with low economic growth in the industrial countries. This would seem to support the view that the high interest rates that prevailed during the 1980s were the result of increased profitability or improved investment efficiency.

For the low- and middle-income countries, the relationship between interest rates and growth is ambiguous. High real interest rates will probably adversely affect developing countries that are highly indebted at variable interest rates and those that need to borrow further. However, developing countries that are outward-oriented may be able to profit from increased exports as a result of rapid growth in the industrial countries.

What does this analysis imply for the consequences of high real interest rates in the future? One implication is that high real interest rates may not matter for growth performance if more productive investment results. If there is a negative impact of higher interest rates on growth, it will probably affect developing countries more. This is not simply because the low- and middle-income countries are net debtors; it seems also to reflect the differing structural characteristics of industrial and developing economies. Further research might consider the role of human capital and institutional constraints in determining the ambiguous relationship between world interest rates and growth in the developing countries.

This paper — a product of the International Economic Analysis and Prospects Division, International Economics Department — is part of a larger effort in PRE to understand the linkages between the world economy and the development process. This paper was written as background to a larger report by the International Economics Department entitled *Global Economic Prospects and the Developing Countries.*. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Mila Divino, room S8-218, extension 33739 (33 pages, with figures and tables).

670. Inflation Adjustments of Financial Statements: Application of International Accounting Standard 29

Yaaqov Goldschmidt and Jacob Yaron

A framework for applying International Accounting Standard 29 to adjust the financial statements of revenue-earning enterprises operating in inflationary economies.

The Bank's draft Operational Directive on Financial Sector Operations requires the adjustment of financial statements in countries where the cumulative inflation rate over three years approaches or exceeds 100 percent. Financial statements in those countries are to follow the accounting principles in International Ac-

counting Standard 29 (IAS 29) of the International Accounting Standards Committee.

IAS 29 provides a list of principles and requirements but does not outline the procedure for measuring income. Nor does it provide a numerical example.

This paper provides a framework for applying IAS 29 to adjust financial statements accompanied by numerical examples and thus may be considered as an extension of the standard.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to provide guidance on the design of financial institutions and on their management practices. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Cicely Spooner, room N8-035, extension 30464 (54 pages).

671. Lessons from the Heterodox Stabilization Programs

Miguel A. Kiguel and Nissan Liviatan

Heterodox stabilization programs are more successful in chronic high inflation countries because only there can the benefits from achieving a rapid initial reduction in inflation outweigh the costs of tampering with price and wage controls. While the heterodox phase is effective in blocking inflation initially, success depends on a long-term commitment to the orthodox part of the program and the readiness to accept the unavoidable costs of disinflation.

This paper draws lessons on the advantages and disadvantages of the heterodox stabilization approach in chronic high inflation countries. Heterodox stabilization programs make *temporary* use of income policies — price and wage controls — to support orthodox policies. The evaluation is based on heterodox programs — successful and unsuccessful ones — from the 1960s and 1980s in Latin American countries and Israel.

Orthodox stabilization programs normally involve a tight fiscal policy, a fixed exchange rate, and sometimes tight monetary policy. The programs have proved their worth under different conditions, including low and moderate inflation (Costa Rica and the Philippines in the early 1980s) and hyperinflation (Bolivia in 1985). The orthodox approach has been less successful in chronic high inflation countries — as demonstrated by Mexico's experience in 1982-83, where a drastic reduction in the budget deficit was accompanied by a large increase in inflation.

Kiguel and Liviatan argue that inflationary rigidities, in an economy with chronic high inflation, can be quickly overcome by using income policies. Their main role is to deal with pessimistic expectations about inflation in situations where the government announces and makes a fiscal adjustment, but private agents do not fully believe it and set prices accordingly.

Heterodox programs were successfully tried in two chronic high inflation countries, Israel's program of 1985 and Mexico's Pacto de Solidaridad of 1987-88. In both cases these programs were followed by a second, more orthodox stage and included the use of the exchange rate as the nominal anchor. While the programs succeeded, both experienced costs in the form of an appreciation of the real exchange rate and high real interest rates.

The main lessons from the experiences analyzed by Kiguel and Liviatan are:

- The initial, rapid reduction in inflation (which usually comes about with small costs) at the beginning of heterodox programs is the easy part; the difficult part is to maintain price stability over time.
- Income policies in heterodox stabilization programs are only justified in high chronic inflation countries (countries with annual rates of inflation above 100 percent) where inflationary persistence is more pervasive and problematic.
- There is a case for a larger fiscal adjustment in heterodox programs than in orthodox programs because of the risk that a government that starts with price controls could be confused with one that tries to achieve price stability without adjusting.
- A heterodox program that fails is likely to lead to larger inflation instability than an orthodox program that fails.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to examine stabilization policies. It was funded by the research project "Stopping High Inflation" (RPO 674-24). Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Emily Khine, room N11-061, extension 39361 (40 pages).

672. The Macroeconomics of Public Sector Deficits: The Case of Ghana

Roumeen Islam and Deborah L. Wetzel

In developing countries, fiscal policy — in particular, the reduction of public sector deficits — has been a key element of stabilization and adjustment programs. An empirical analysis of fiscal deficits in Ghana, where they have been a prominent feature, reveals their significant effects on both the real and financial sides of the economy.

Ghana's economic program after independence emphasized public investment and spending as the road to growth, a strategy that led to recurring fiscal deficits and declining growth. By 1983, per capita income was 10 percent lower than in 1957. Since the 1984 Economic Recovery Program, Ghana's fiscal deficits have declined and the public sector has been rationalized. Average growth rates have become positive.

Islam and Wetzel provide two different definitions of the fiscal deficit in Ghana. The first, more conventional approach aggregates the components of the public sector, including the central government, the social security and national insurance trust, state-owned enterprises, and the cocoa marketing board. However, because of the lack of data, this method of treating the deficit may understate its true value.

The second way looks at the total financing flows to the public sector. Data on the central government debt are supplemented with data on the claims of the central bank and banking system against state-owned enterprises and data on public external debt.

Islam and Wetzel examine the ways Ghana chose to finance its deficits and how these affected the financial side of the economy. They find that before implementation of the adjustment program of 1983, the government relied mainly on money creation for financing, though this was more by default than by choice since

external lending was unavailable until 1984. This policy led to high inflation, negative real interest rates, an overvalued currency, and the emergence of black markets. These forces further eroded the tax base and ultimately increased the deficit.

The authors also find that high levels of inflation, combined with government restrictions on private currency holdings, affect the demand for assets in Ghana, leading to a Laffer curve effect in government seigniorage: After a certain point, an increase in the inflation rate actually causes a reduction in seigniorage revenue. Yet given the government's dependence on monetary finance, reduced seigniorage meant more money creation and higher inflation.

According to Islam and Wetzel:

• The fiscal deficit has had only little effect on private consumption; lagged consumption and disposable income were more important.

• Public sector investment in Ghaa has mostly substituted for private investment. The current program of divestiture of state-owned enterprises should lead to an increase in private investment.

• The fiscal deficit had a significant negative effect on the external side. The official real exchange rate tended to appreciate, the trade balance worsened, and the black market premium rose.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a PRE research project on "The Macroeconomics of the Public Sector Deficit" (RPO 675-31). Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Raquel Luz, room N11-057, extension 34303 (170 pages, with figures and tables).

673. The Macroeconomics of Public Sector Deficits: The Case of Pakistan

Nadeem U. Haque and Peter Montiel

Pakistan's fiscal deficit remains high because of the government's inability to mobilize new resources or to cut current expenditures. Yet, unlike other developing countries with high fiscal deficits, Pakistan has experienced neither hyperinflation nor debt rescheduling. This can be attributed to high growth and to the availability of concessional external financing and domestic nonbank borrowing.

For almost 20 years, Pakistan's fiscal deficit — at about 7 percent of GNP — averaged nearly twice the level for Asian countries as a whole. Although other countries with high fiscal deficits — in Latin America, for instance — have typically experienced serious growth, inflation, and current account problems, Pakistan has not. In recent years the inflation rate has been 5 percent, economic growth has averaged 7 percent a year, and the current account has either been in surplus or registered manageable deficits.

Haque and Montiel examine the causes of Pakistan's fiscal deficits. As in many other countries, public enterprise investment spending (financed by external development funds) during the early to mid-1970s became a fixture of the economy, while sufficient revenues could not be generated through taxes or returns on public investments. Public sector wages and salaries, as well as higher defense spending in the late 1970s, added to the burden. But the most important contribution to the fiscal deficits came from public sector interest payments. To keep inflation in check and to tap remittance flows, Pakistan resorted to nonbank borrowing, but the rising stock of internal debt led to higher interest rates, exacerbating the fiscal deficit.

The authors also examine why, despite these deficits, the country's macroeconomic performance has been surprisingly good. The equilibrium deficit is estimated to have been quite high for Pakistan in recent years (about 5.5 percent of GNP), despite a low inflation rate, because of a very high underlying rate of growth of real output (about 6 percent a year). This allowed a fairly rapid expansion of debt without recourse to inflationary finance. Pakistan was also able to borrow both domestically and abroad at below-market rates, including recycled petrodollars from Middle East oil producers after 1973.

To gain additional insight into the role of fiscal deficit in Pakistan, Haque and Montiel analyze how alternative fiscal policies would have affected the country's economic performance during the 1980s. They find that:

• Reducing the deficit by cutting public expenditure could have had a favorable effect on the trade balance, but at a cost to economic growth and with few price payoffs.

• Increasing tax revenues could achieve a similar external adjustment while reducing the output cost, but price problems might arise.

• Altering the composition of deficit financing would have predictable results — shifting to more money financing would mean higher prices, lower interest rates, and higher growth.

The authors conclude that finding alternative modes of deficit financing will become more urgent. Not only will continued concessional financing depend on the vagaries of the world oil market, but the accumulation of domestic debt and the higher cost of borrowing at home will require lower primary deficits. But they warn that if Pakistan turns to money financing, its macroeconomic performance would likely begin to resemble that of other high-deficit developing countries.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a PRE research project, The Macroeconomics of the Public Sector Deficit (RPO 675-31). Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Raquel Luz, room N11-057, extension 34303 (63 pages, with charts and figures).

674. Distributional Effects of Adjustment Policies: Simulations for Two Archetype Economies

Francois Bourguignon, Jaime de Melo, and Akiko Suwa

Macroeconomic crises in the 1980s made it more difficult to design policies to alleviate poverty because of the need to stabilize the economy and promote restructuring that would ensure long-term growth.

The 1980s was a period of external shocks for developing countries, and domestic macroeconomic imbalance and structural inefficiencies compounded the effects. But the performance of developing countries was not uniform.

The authors devised a model for simulating the effects of terms of trade and interest rate shocks on two archetype economies, one representing an average

Latin American economy, and the other an average African economy.

The study examined the effects of the shocks and of different adjustment policies. Identical shocks and adjustment packages yield different outcomes for growth, poverty, and income distribution in the two economies.

The simulations suggest three important conclusions:

• With the standard adjustment package, inequality increased significantly for the Latin American archetype but decreased significantly for the African archetype.

This happened for two reasons. In the Latin American archetype, the rich are able to protect their financial assets through capital flight. In the African archetype, the poor are helped as the real incomes in rural areas increase because of the higher export earnings induced by the real exchange rate depreciation.

• Adjustment can lead to a sharp redistribution of income from groups with low marginal propensities to save towards groups with a high marginal propensity to save.

• Trade and tax reforms that improve allocative efficiency by equalizing incentives across sectors can reduce inequality significantly, provided that governments are able to implement these revenue-neutral measures.

This paper — a product of the Trade Policy Division, Country Economics Department — was prepared as a background paper for the *1991 World Development Report*. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact the World Development Report office, room S13-060, extension 31393 (36 pages, with figures and tables).

675. Are Buybacks Back? Menu-Driven Debt-Reduction Schemes with Heterogenous Creditors

Ishac Diwan and Mark M. Spiegel

Two debt-reduction mechanisms — market buybacks and concerted debt-reduction agreements — run into coordination problems. The menu approach captures some of the advantages of both but not their inconveniences.

There is always some price that is low enough so that a debtor country gains by buying back some of its debts. Similarly, there is always some price that is high enough so that creditors gain by selling their debt claims. What is needed is a mechanism that allows trades to take place at some price within this range.

One mechanism, the market buyback, has been called a boondoggle. Market buybacks are too expensive from the debtor's point of view. Faced with a buyback bid, each creditor has incentives to hold onto its claim unless the bid is larger than the value of debt after the deal.

Concerted debt-reduction agreements can overcome this type of coordination failure, but they may be difficult to reach in practice because of the heterogeneity of creditors.

Diwan and Spiegel argue that the menu approach to debt reduction retains the advantages but not the inconvenience of buybacks and concerted agreements.

The authors introduce a model of bank asset pricing in the presence of tax incentives and deposit insurance. Through it they show that the exit price of any bank depends on the composition of the bank's asset portfolio.

They then derive the equilibrium level of exit and new money for a distribution of creditors facing a given menu program. They show that the optimal menu includes some positive level of debt repurchase in almost all cases — challenging the argument that buybacks are undesirable. The intuition for this result is that by getting the banks with the worse valuation out of the creditors' group, a rescheduling agreement at better terms can be reached with the remaining creditors.

Diwan and Spiegel conclude that the menu program dominates the standard buyback and new-money approaches. That suggests a questioning of the conventional wisdom concerning the role of buybacks and the optimal level of buyback activity.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to analyze the role of debt and debt service reduction for highly indebted countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheilah King-Watson, room S8-040, extension 33730 (38 pages).

676. Higher Education in the Republic of Yemen: The University of Sana'a

Viswanathan Selvaratnam and Omporn L. Regel

Higher education in Yemen has reached a critical stage requiring urgent reexamination of the course of its development. Future policies should help to diversify the structure of higher education and to provide opportunities for admission to a broader group of students.

Enrollment in the University of Sana'a grew gradually from fewer than 100 students in 1970, shortly after it opened, to about 4,500 in 1979. Government policy at first tried to balance the university enrollment with the capacity of the marketplace to absorb university graduates.

University enrollment began to increase at an outstanding rate after 1985, following the heavy expansion of secondary education in the country in the late 1970s. From 1987 to 1991, total enrollment expanded from about 17,000 to 44,000 students. If the present rate of intake continues, total enrollment is projected to reach 79,000 students by the year 2000.

This explosive growth has created numerous problems, including overcrowded classrooms, insufficient staff resources, deteriorating physical plant and equipment, inadequate educational materials and equipment, and a low level of absorption of graduates into the labor force.

These developments threaten the quality of degree programs in several disciplines. The government should act immediately to develop a strategy to protect its investment in higher education. The policy should consider the country's medium- and long-term needs, the constraints on its resources, and the growing social aspirations of its people. The goal of this assessment should be to design a strategy that will make higher education a more effective investment to serve the needs of the country and to protect its resources.

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to strengthen the ability of the Bank and borrowers to address the challenges in

higher education. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Cynthia Cristobal, room S6-035, extension 33640 (48 pages, with graphs and tables).

677. On Economic Transformation in East-Central Europe: A Historical and International Perspective

Andres Solimano

The seemingly irreversible socialist experiment in East-Central Europe came to a sudden, largely unexpected, end in the late 1980s. That collapse generated important economic and political consequences. A broad historical and international perspective is needed to understand the ongoing transformation in the region.

The paper considers two periods: before socialism and after it. The former includes the 1920s, 1930s, and 1940s, and the second includes the late 1980s and early 1990s. The focus is on issues of economic reconstruction, hyperinflation, integration with the global monetary system and the functioning of the gold exchange standard, the impact of the great depression of the 1930s and its aftermath, and postwar monetary reforms. The study also compares per capita income and the structure of foreign trade of East-Central Europe with those of Western Europe and Latin America in the late 1930s and late 1980s.

Differences in per-capita income between Eastern and Western Europe widened after socialism. In 1937, before World War II and socialism, per capita income in Great Britain — then the highest in Western Europe — was 2.6 times per capita income in Czechoslovakia — then the highest in East-Central Europe. In 1988, the ratio of per capita income in West Germany — now with higher per capita income than Great Britain — to that of Czechoslovakia was 5.6. The average income per capita of Eastern Europe has moved closer to that of such Latin American countries as Argentina, Brazil, and Mexico.

Economic transformation in East-Central Europe probably will be a long and complicated process because the initial conditions for the transition to a market economy are very weak. In fact, the chief characteristics of these economies are macroeconomic imbalances, obsolete and uncompetitive productive capacities, a lack of modern infrastructure, underdeveloped factor markets, and weak institutions.

Nor is the external environment supportive. The disintegration of Comecon will entail large terms of trade losses for Eastern Europe vis-a-vis the Soviet Union. A massive influx of western capital is unlikely in the short to medium run. International capital markets will be reluctant to commit large amounts of credit to the region until reform is more consolidated.

On the political side, the initial euphoria over the end of the old regime is waning and people are less enthusiastic about reform because of the hardships accompanying the transition. Fragile and changing political coalitions and the signs of some surrender to the temptations of populism clearly reflect that tendency.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to analyze the transition from central planning to a market economy in Eastern-Central Europe. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Emily Khine, room N11-067, extension 39361 (38 pages, with tables).

678. Economic Growth: A Review of the Theoretical and Empirical Literature

David Renelt

Some countries have achieved rapid growth rates and caught up with wealthier countries while others have achieved little or no growth. Efforts to determine the reasons for these differences are an important theoretical and empirical task.

In recent years, economists have developed new models of endogenous economic growth that consider policy influences on growth and divergent outcomes among countries. These models deal with such issues as growth, the operation of financial markets, trade policy, government expenditures, and taxation.

Using the standard neoclassical growth model as a point of departure, Renelt reviewed important recent developments in growth theory. He analyzed the methodology of several endogenous growth models and examined models aimed at particular policy issues.

One reason for the success of the standard neoclassical growth model, Renelt writes, is that it provided a convenient tool for organizing data on the sources of economic growth. The model left much of the growth unexplained, however.

Cross-sectional analysis has provided some useful insights into the growth process. More direct estimation of productivity growth and production functions in developing countries along the lines suggested by existing growth accounting studies could be very useful.

Economists working in this area should target their work directly to the analysis of policy options in developing countries. More work also is necessary at the sectoral level. The new models of growth have not adequately described the issues of structural transformation and disequilibrium in factors markets. The existence of spillovers and increasing returns probably is more important in the industrial sector of developing countries. Policymaking generally will benefit from empirical results generated from more carefully constructed structural economic models.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to analyze the policy determinants of economic growth. This research was part of the preparation of a research project "Do National Policies Affect Long-run Growth?" Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Raquel Luz, room N11-059, extension 34303 (42 pages).

679. Poverty Alleviation in Mexico

Santiago Levy

The main determinants of poverty in Mexico are macroeconomic uncertainty, an urban bias in social and infrastructure spending, and institutional arrangements and government policies in rural areas that discriminate against the poor. Benefits to the poor should be adminis-

tered under a single program that simultaneously delivers food (through coupons rather than price subsidies), preventive health services, and information on hygiene, birth control, and food handling.

Among the findings is this ambitious analysis of poverty in Mexico:

Mexico's moderately poor lack some goods and services that everyone should enjoy, given Mexico's wealth. The extremely poor have so few resources as to be at risk of undernutrition and illness.

At most, 19 percent of the population is extremely poor (probably an overestimate), and extreme poverty is mostly a rural problem. The extremely poor have larger households, more children, and the highest dependency ratios.

The three main determinants of poverty are urban bias, macroeconomic uncertainty, and institutional arrangements and government policies in rural areas that discriminate against the poor. Urban bias in social and infrastructure spending reduces the rural poor's ability to increase their human capital. Macroeconomic uncertainty and stop-go cycles depress the permanent demand for unskilled labor and the steady stream of social spending. Institutional arrangements and resource allocation policies to increase agricultural output deliver substantial rents to high-income agricultural producers while depressing returns to land and the demand for unskilled rural labor, the two main assets of the rural poor.

Development policies to help the poor should focus on:

- Furthering the process of institutional reform of the incentive structure in rural areas.
- Changing the way resources are channeled to rural areas (eliminating price subsidies and increasing investment in rural roads, irrigation, extension services, and the like).
- Eliminating urban bias in social and infrastructure spending
- Bringing private costs of production in urban areas in line with social costs.

Policies to alleviate poverty must allow for the fact that the extremely poor are less able to bear risk, have higher fertility rates, have higher price and income elasticities of demand for food, and may experience more household inequality. The moderately poor, on the other hand, can migrate, can benefit from educational opportunities, and can participate more fully in the labor market.

There is a strong case for direct targeting of benefits onlt to the to the extremely poor. Such benefits should be administered under a single program that simultaneously delivers food (through coupons rather than price subsidies), preventive health services, and education about hygiene, birth control, and food preparation and conservation. Food pricing policies should be divorced from poverty considerations. A poverty program for the extremely poor should direct its efforts at reducing fertility, morbidity, undernutrition, and infant mortality.

Intertemporal, incentive, and administrative considerations all argue that the government can best help the moderately poor indirectly. This can be done through policies that increase the permanent demand for unskilled labor, returns to land, and the poor's access to education and social infrastructure.

This paper is a product of the Country Operations I Division, Country Department II, Latin America and the Caribbean Regional Office. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Margaret Stroude, room I8-155, extension 38831 (94 pages).

680. On Hunger and Public Action

Martin Ravallion

A new book on the use of public action to avoid famines and reduce chronic hunger not only prescribes things to do but also recommends new ways to think about what actions will be most effective in the future.

Ravallion's article is a commentary on a new book "Hunger and Public Action," by Jean Dreze and Amartya Sen. Ravallion compares the book's conceptual approach and policy recommendations to those of other recent writings on poverty and hunger.

Dreze and Sen advocate a very broad view of the factors determining human well-being, arguing that expanding *capabilities* for doing things of value should be the criterion for public choice.

Researchers trying to understand the causes of a particular famine or to anticipate future famines have usually concentrated on information about aggregate food availability. Some have deemed this to be the only information necessary to understand famine. A better approach, the authors argue, is to focus on the determinants of individual *entitlements* — the command of people over food and other necessities.

The study argues that government can prevent famines by protecting the entitlements of vulnerable groups. This can also have beneficial long-term effects on development.

The authors examine several successful government efforts to reduce or eliminate chronic hunger. They show how countries such as Chile, China, Costa Rica, Cuba, and Sri Lanka have used public provision to achieve the social indicators typical of richer countries.

Ravallion critically assesses the book's conceptual framework, data, and methods of analysis. He concludes that, despite some shortcomings in the book, the authors make a convincing case for a positive role for public action in famine relief and longer term alleviation of poverty and hunger. Even poor countries with limited domestic resources can participate in this kind of positive approach. Ravallion examines the implications for the role of the international community.

Famines are avoidable and it is not necessary for governments to wait for an increase in domestic aggregate food availability before they take some steps to head off famine. Governments can also act to alleviate chronic hunger and the threat of destitution without waiting for overall economic growth to solve the problem.

However, the right sort of growth can have an enormously important role in alleviating chronic hunger and facilitating public support, particularly in human resource development.

Much remains unknown about the most effective public action against hunger in specific countries. Future research on development policy should make this a high priority.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to understand better the causes of hunger and how it can be prevented. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Cicely Spooner, room N8-037, extension

30464 (38 pages).

681. Political-Economy Arguments for Uniform Tariff

Arvind Panagariya and Dani Rodrik

In recent years uniform tariffs have become increasingly popular but economists have not formulated a rationale that demonstrates their superiority to alternative tariff structures. Do strong political economy arguments exist that favor uniform tariffs?

During the 1980s the Bank aggressively promoted greater uniformity in tariffs in developing countries. The Bank's structural adjustment and trade reform programs have often recommended abolition of quantitative import restrictions and increased uniformity in tariffs.

This study by Panagariya and Rodrik is a formal analysis of some political economy arguments for uniform tariffs. They present three models in which uniform tariff rules may be adopted as a way of minimizing the welfare costs of endogenously determined tariffs.

In the first two models, tariffs are demand determined: the government is essentially unable to resist the lobbying pressure. In the third model, tariffs are supply determined in the sense that they result from the government's preference for certain sectors over others.

After examining the three models, Panagariya and Rodrik conclude that in each case it is possible for a uniform tariff regime to yield higher welfare than a regime in which tariffs can diverge across sectors.

Three different effects may exert a moderating influence on political pressure for protection under a uniform tariff structure. The first is the free-rider effect. In this case, a uniform tariff regime is likely to generate less lobbying activity than a regime under which sectoral tariffs can differ. If the politically active import-competing sectors are numerous, adoption of the uniform tariff rule will enhance economic efficiency.

The second is the input-price effect. When imported intermediate inputs are used predominantly in import-competing sectors, as is often the case in developing countries, tariff uniformity will reduce the profitability of tariffs for import-competing sectors. On the other hand, if imported inputs are used primarily in exportables, import-competing sectors will seek tariffs even more actively.

The third is the precommitment effect. Tariff uniformity increases the cost to a future government of protecting favored sectors. If these favored sectors are small, relative to national income at world prices, a precommitment to a uniform tariff is likely to enhance efficiency.

Vague references to "political-economy reasons" are not sufficient to justify a preference for tariff uniformity. It is essential to be explicit about the logic that underlies advocacy of tariff uniformity in specific cases.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the design and implementation of tariff reform. Copies are availabe free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Karla Cabana, room N10-037, extension 37947 (29 pages, with figures).

682. Intertemporal Substitution, Risk Aversion, and Private Savings in Mexico

Patricio Arrau and Sweder van Wijnbergen

Private savings in Mexico have fallen dramatically since 1982. The drop could be linked to a substantial increase in public savings, more than to uncertainty or real interest rate developments.

The decline in private savings since 1982 is arguably the most important problem in high-debt countries. A reversal of the trend is essential if growth is to be restored. Understanding the determinants of private savings behavior is thus of more than academic interest.

Three factors predominate: (1) the extent of intertemporal substitution, (2) attitudes toward risk, and (3) private/public savings interaction. These factors lie at the core of Arrau and van Wijnbergen's research. It tests the issue of debt neutrality — whether future taxes are recognized as an offset for the value of any government debt held — and the response of private savings to real interest rates and uncertainty.

The authors estimated two configurations of a joint portfolio-choice/savings model. First they included equity, domestic bonds, and flight capital. In the second configuration they eliminated flight capital.

The second configuration, which eliminated the possibility of double counting of assets, yielded substantially better, more intuitive results. Among the authors' conclusions:

- The intertemporal approach to consumption is supported by the data.
- The results imply rejection of the traditional, expected-utility approach.
- Risk aversion is significant but lower than many have argued from analysis of static versions of the Capital Asset Pricing model.
- Results on the intertemporal substitution elasticity are much weaker.
- Domestic bonds issued by the government probably are considered as part of private wealth, although significantly less than one for one, thus rejecting debt neutrality.

The results suggest that the large increase in volatility of asset returns has lowered the risk-adjusted rate of return on savings and may therefore have lowered private savings. This effect must, however, have been offset to some extent by the sharp increase in real rates of interest.The authors then suggest that some of the decline in private savings could more plausibly be related to the substantial increase in public savings that took place during the period.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to study the links between external and domestic finance Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheilah King-Watson, room S8-040, extension 31047 (28 pages).

683. Vocational Schooling, Occupational Matching, and Labor Market Earnings in Israel

Shoshana Neuman and Adrian Ziderman

Case studies in the past two decades have strongly argued against vocational schooling on cost-benefit grounds but some recent studies have reached different conclusions.

Neuman and Ziderman conducted a comparative analysis of the earnings of workers in Israel who had last attended vocational schools and those who had last attended academic secondary schools before entering the labor force. Their findings suggest that Israel may provide an example of an educational system in which vocational schooling is economically effective.

Vocational schooling in Israel has proven more cost-effective than general academic training. In particular, vocational school attenders who later worked in occupations related to their course of study earned more. Their wages were up to 10 percent more a month than their peers who studied at academic secondary schools and those who attended vocational schools but found employment in occupations not related to the subjects they studied.

The results of the research in Israel reinforce similar findings in recent research on vocational schooling in the United States.

A caveat is necessary to temper the generally positive findings concerning vocational schooling in Israel. While vocational school is cost-effective compared with other forms of secondary schooling, it does not compare favorably with other forms of training for skilled trades, such as apprenticeships and factory-based vocational schools.

Another factor is the national consensus in Israel favoring education designed to equip young people for the social and cultural role of integrating the country's heterogenous, largely immigrant population. This consensus acts as a major constraint on the development of training alternatives that are the norm for youth in other countries.

The desire to meet manpower needs for development plays an important role in explaining the growth of vocational schooling in Israel. A predominant factor, however, is the effectiveness of vocational schools in integrating youth from North Africa and elsewhere in the Middle East into the mainstream of the nation's society. Many of these immigrant youngsters have low academic ability and relatively low socioeconomic status.

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to develop policies to improve private and public skills training in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Cynthia Cristobal, room S6-214, extension 33640 (27 pages, with tables).

684. The Value of Intra-household Survey Data for Age-based Nutritional Targeting

Lawrence Haddad and Ravi Kanbur

The design of nutrition interventions can be very susceptible to the level of aggregation of available information.

Age is a good indicator for identifying at-risk population groups for interventions that focus on prevention rather than cure. But what is the ideal upper age limit for targeting interventions to minimize undernutrition?

Within the framework of upper-limit indicator targeting, Haddad and Kanbur addressed certain questions:

- How far wrong can one go using only household-level data on nutrition?
- How valuable is the extra information one gets from costlier intra-household surveys on nutrition?
- How far wrong can one go by neglecting the intra-household repercussions of nutritional interventions — for example, supplements to a child being nullified by equivalent reductions in food to the child in the home?
- How useful is it to know the calorie reallocation outcome if age is used as a targeting instrument?

Age proved to be a good indicator of undernutrition when researchers had data on individual nutrition and on the intra-household allocation of calories.

Age was *apparently* less useful as a targeting instrument when only household-level data on calorie adequacy were used. The errors in age-based targeting were therefore significant.

Food sharing rendered age *truly* less useful as a targeting instrument because of leakage within the household. Calories targeted to the younger household members end up reaching the older individuals.

This paper — a product of the Research Advisory Staff, Office of the Vice President, Development Economics — is part of a larger effort in PRE to understand the design of poverty alleviation policies. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Jane Sweeney, room S3-026, extension 31021 (29 pages, with figures and tables).

685. Children and Intra-household Inequality: A Theoretical Analysis

Ravi Kanbur

Structural models of intra-household allocation of resources must be modified to make intra-household allocation nonlinear in total household resources.

Arguing that resources within the household are not allocated according to need, several researchers have tried to model intra-household allocative behavior. Haddad and Kanbur (1990) argued that as households become better off, intra-household inequality first increases and then decreases. The behavior of intra-household inequality as household welfare improves is clearly important for policy, as interventions are often restricted to the household level — although the objective is to improve the welfare of the least-well-off individual.

Kanbur shows here that many of the tractable derivations of intra-household resource allocation are available in what might be called the "linear expenditure systems" framework.

He analyzes the relationship between intra-household inequality and total household resources for models of intra-household allocation that lead to a linear expenditure reduced form.

He then investigates three structural models:

- Household welfare maximization
- Cooperative bargaining
- A noncooperative game with children as public goods

He indicates how these models should be modified to produce reduced forms that are better represented in the evidence.

This paper — a product of the Research Advisory Staff, Office of the Vice President, Development Economics — is part of a larger effort in PRE to understand the design of poverty alleviation policies. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Jane Sweeney, room S3-026, extension 31021 (19 pages, with figures).

686. Lending for Learning: Twenty Years of World Bank Support for Basic Education

Adriaan Verspoor

Two decades of World Bank lending for education teach that flexibility, community involvement, and adaptation of programs to local conditions are some of the critical elements of successful education programs.

Verspoor traces the development of the World Bank's lending policies for education and draws lessons and recommendations from the Bank's experience.

The evolution of the Bank's policies for education lending has paralleled the evolution of priorities in the development community. When the Bank began lending for education in 1963, it concentrated on training manpower for the modern sector and limited Bank lending to general secondary education, vocational and technical education, higher education, and teacher training. As contribution of basic education to development was more widely recognized in the late 1960s, the Bank began to support primary education. And as alleviating poverty and promoting equity became priorities, the Bank began in the 1970s to expand its support for basic education — primary and nonformal education to help build up literacy, numeracy, and problem-solving skills.

The Bank's lending for primary education has supported four main objectives: expanding educational opportunities, improving instructional quality, increasing efficiency, and strengthening management in the sector. In nonformal education, Bank lending has supported the goals of developing practical skills, promoting basic literacy, and building income-generating skills.

Verspoor argues that Bank support to education has been most successful when it provides for in-depth analysis of subsectoral issues, concentrates on a few objectives, sustains its commitment to these objectives over a long period, and delegates to the borrowing country the responsibility for sectoral analysis, policy formulation, and project development and implementation.

From his review of Bank experience in supporting basic education, Verspoor draws four lessons for those who design educational development programs:

- The most important determinant of the outcome of primary education programs is the quality of the implementation at the school level.
- The quality of the implementation depends on its context — and what works in one place many not in another. Programs must be adapted to each location.
- Effective administration and efficient management are vital preconditions for good implementation.
- The lack of support for mechanisms to assess the outcomes of the Bank's basic education programs is the critical weakness in their design.

Verspoor makes five principal recommendations for designing education projects:

- Support the locally determined processes that drive educational development, such as school improvement, community mobilization, and the planning of schools' locations.
- Invest in the most cost-effective inputs.
- Test carefully how an investment package works in a particular setting and monitor outcomes constantly.
- Strengthen the institutional capacity for national and regional strategic planning and management, and for operation at the district and school levels.
- Design projects to allow a flexible response to a wide variety of local needs and unplanned events.

This paper — a product of the Education and Employment Division, Population, Health, and Human Resources Department — is part of a larger effort in PRE to analyze in detail the lessons of the Bank's operational experience in education. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Cynthia Cristobal, room S6-214, extension 33640 (42 pages, with figures and tables).

687. Brazilian Frozen Concentrated Orange Juice: The Folly of Unfair Trade Cases

Carlos Alberto Primo Braga and
Simao Davi Silber

The main effect of antidumping actions brought against Brazilian producers of frozen concentrated orange juice has been to strengthen the oligopoly-oligopsony relationship between Brazilian producers and their U.S. partners. This limits the prospects for competition in the world market for frozen concentrated orange juice.

From 1965 to 1976, the United States was a net exporter of frozen concentrated orange juice; since the 1977 freeze in Florida, it has been a net importer. In 1978, the price differential between the Florida and Brazilian concentrates exceeded the tariff wedge and the Brazilian product began to displace U.S. production and, indirectly, Florida-grown oranges.

Brazil dominates the international market for frozen concentrated orange juice. By the mid-1980s, Brazil accounted for about 80 percent of world exports of the product. Brazilian producers supplied more than 94 percent of U.S. imports of the product in the 1980s and accounted for 50 percent of sales in the U.S. market. Brazil is also the main supplier in the European Community.

The Brazilian frozen concentrated orange juice industry has been able to expand rapidly despite heavy protection in its major markets — especially the United States — and erratic changes in Brazilian policies at all levels. The dynamism of the Brazilian industry is attributable to Brazil's comparative advantage and to the series of climate shocks to Florida's orange groves.

In Brazil, the industry is largely in the hands of four large firms — who sell 80 percent of their products to a few large U.S. firms (Coca Cola, Procter & Gamble, Tropicana, Pasco, and Beatrice), at significant price rebates.

Florida orange growers, beset by import competition and climate shocks, turned to unfair trade laws for protection in the early 1980s, relying on them increasingly as a substitute for safeguard actions. Because of Brazil's interventionist trade policies, the prevailing U.S. belief was that any Brazilian industry was guilty of unfair trade practices until proven innocent.

When U.S. firms accused Brazilian producers of unfair trade, the Brazilian producers were in a bind: the imbalance between their production costs and sale prices was the result mainly of an exceptional lack of coordination among Brazilian firms struggling to secure stable input supplies. But it was seized upon by foreign producers as unfair trade. In 1986, the Brazilian industry was accused of dumping by both the United States and Australia. And unfair trade procedures in the

United States, once initiated, have a high probability of resulting in an affirmative decision.

Unfair trade cases against Brazilian firms have had little direct impact on output or price levels. But apparently they promote oligopolistic coordination among Brazilian firms. To the extent that these unfair trade cases foster the market power of Brazilian frozen concentrate producers, they increase the likelihood of increased long-term welfare costs to consumers worldwide.

Unfair trade actions have had a particularly negative impact on their supposed beneficiary, the U.S. citrus industry. The antidumping cases were basically used to protect orange growers and higher-cost frozen concentrate producers at the expense of U.S. juice and soft drink processors and distributors linked by marketing arrangements to Brazilian concentrate exporters. Their effect has probably been to strengthen the oligopoly-oligopsony relationship between Brazilian producers and their U.S. partners, further hindering the prospects for competition in the world market for frozen concentrated orange juice.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the economics of the emergence of "fairness" as a standard for regulating international trade, its implications for the continued openness of the international trading system, and its continued functioning as an important vehicle for development. Copies are availabe free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Nellie T. Artis, room N10-013, extension 37947 (46 pages).

688. Macroeconomics of Public Sector Deficits: The Case of Zimbabwe

Felipe Morande and Klaus Schmidt-Hebbel

To improve growth prospects in Zimbabwe, foreign trade must be reformed and the country's high public deficits — which crowd out private consumption and private investment — must be reduced.

Zimbabwe has the uncommon combination of a high public deficit, a balanced current account, low inflation, and low levels of investment and growth.

Despite a surplus in the current account, the nonfinancial public sector has run deficits exceeding 10 percent of GDP since 1981. Inflation is low but interest rates are rising because of partial financial liberalization and rising domestic public debt stocks.

Heavy public spending crowded out private consumption and investment in the 1980s. The private saving rate is a staggering 20 percent of GDP, which finances all of Zimbabwe's investment.

The fiscal adjustment begun in 1987 helped stabilize the public debt and improved recovery of investment. But more fiscal adjustment is needed to improve macroeconomic and financial stability and growth prospects.

Public deficits must be reduced to ensure a sustainable path for public debt. High deficits are crowding out both private consumption and private investment. The public sector must be adjusted and foreign trade must be reformed to improve capital formation — a prerequisite for improving growth prospects in Zimbabwe.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a PRE series of case studies on the macroeconomics of public sector deficits. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Susheela Jonnakuty, room N11-039, extension 39074 (109 pages with figures and tables, plus 9 pages of appendix).

689. Do Tax Policies Stimulate Investment in Physical and Research and Development Capital?

Anwar Shah and John Baffes

Among tax policies designed to stimulate investments in Pakistan, the investment tax credit has not been cost-effective. But allowing full expensing for research and development costs has been.

Tax policy instruments are often used to stimulate private investment in developing countries. But researchers have not explored how well such policies have met stated policy objectives.

To evaluate the cost-effectiveness of tax incentives for industrial and technological development, Shah and Baffes specify a dynamic production structure model with endogenous capacity utilization.

Taxes and incentives are part of the user cost of capital, and thereby affect producer decisions about choice of inputs, technology, and capital accumulation.

Empirical estimates of this model allow one to infer both the impact of investment incentives and their implications for revenues foregone by the government.

The model results yield an objective, empirically derived cost-benefit ratio that is superior to standard cost-benefit analysis and King-Fullerton type marginal effective tax rate analysis.

Shah and Baffes apply this model empirically for Pakistan. The results suggest that the investment tax credit has not been effective at stimulating investments in Pakistan. The private investment stimulated has been less than the government revenues foregone.

Allowing full expensing for research and development expenditures, on the other hand, has been cost-effective.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to evaluate tax incentives for industrial and technological development. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Ann Bhalla, room N10-053, extension 37699 (25 pages, with tables).

690. The Terms-of-Trade Effects from the Elimination of State Trading in Soviet-Hungarian Trade

Gabor Oblath and David Tarr

A reduction of the Soviet "subsidy" to Eastern European countries would impose greater transition costs on them just as they are attempting to make the drastic adjustments they need to move to market economies. How much of a cost will the switchover of their CMEA trade relations impose?

Economists have debated whether the Soviet Union subsidized trade with its Eastern European partners in the Council of Mutual Economic Assistance (CMEA).

Effective January 1, 1991, former

CMEA members implemented their "switchover" decision to convert to world market prices denominated in convertible currency. The switchover dramatically reduced the role of "state trading" by permitting direct enterprise to enterprise transactions denominated and settled in convertible currency.

Oblath and Tarr made an intensive study of the trading relationship between Hungary and the Soviet Union as a case study on the terms-of-trade issue.

A detailed empirical investigation of prices in Soviet-Hungarian trade before and after the switchover provides some indication of the terms-of-trade loss that Hungary is likely to suffer as a result of the switchover of its trading relationship with the Soviet Union.

Based on the assumption that oil would sell at about $21 a barrel, Hungary probably will suffer an income terms-of-trade loss of $1.5 billion to $2.15 billion, more than double the most recently published careful estimate. In view of the volatile price of oil on world markets, however, the study estimates that for each dollar change in the world price of oil, all energy costs would change by $76 million.

Contrary to conventional wisdom, Oblath and Tarr find that the majority of Hungarian firms exporting to the Soviet Union have been disfavored by the combination of the payments mechanism, exchange rate, tax, and subsidy policies.

The experience of early 1991 suggests that a significant decline is likely to occur in Soviet imports from Hungary during the remainder of the year. A variety of problems account for the decline, many of them specific to internal conditions in the Soviet Union.

This paper — a joint product of the Trade, Finance, and Public Sector Division, Technical Department, Europe, Middle East, and North Africa Regional Office and the Socialist Economies Reform Unit, Country Economics Department — is part of a larger effort in PRE to examine the role of trade liberalization in the transition from a socialist to a market economy. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Joe Smith, room H9-071, extension 37350 (30 pages).

691. Can Debt-Reduction Policies Restore Investment and Economic Growth in Highly Indebted Countries? A Macroeconomic Framework Applied to Argentina

Jacques Morisset

Since 1982, public and private investment rates have declined dramatically in most debtor countries. What would be the effects of debt-reduction operations for heavily indebted countries like Argentina?

Morisset devised an analytical framework to examine the implications of debt-reduction operations for the economy of a typical middle-income, heavily indebted country.

A major finding is that debt-reduction policies can succeed in restoring investment and, consequently, growth in debtor countries. Such policies combine a liquidity effect resulting from the reduction in debt service payments and an incentive effect resulting from the debt relief.

A simulation designed to analyze the effects of debt-reduction policies in Argentina showed that a 30 percent reduction in debt had a 2.4 percent positive effect on the level of GDP in the first year and a 5.4 percent effect in the fifth year.

The model identifies various channels through which a reduction in foreign debt influences investment. Although the direct effect of debt relief on private investment is relatively weak, the indirect effects through domestic assets are strong.

The prospect of greater stability in the domestic economy increases the demand for domestic assets, particularly bank deposits. This reduces domestic interest rates and increases the supply of credit extended by the domestic financial sector. Both effects have a positive influence on productive investment.

The analysis includes a calculation of the debt-reduction and liquidity combination that maximizes Argentina's GDP. The purpose was to determine the best use of a potential loan to the country from international financial institutions.

The empirical results suggest the tentative conclusion that a Brady Initiative debt and debt service reduction operation could establish the basis for sustainable growth in Argentina, if combined with appropriate domestic policies.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to investigate the benefits and costs to debtor countries and their creditors of voluntary, market-based debt and debt service reduction arrangements. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheilah King-Watson, room S8-040, extension 31047 (33 pages, with tables).

692. Health Financing in the Poor Countries: Cost Recovery or Cost Reduction?

J. Brunet-Jailly

Providing adequate health care and expanding access to care are crucial problems in many developing countries. Should governments direct their efforts to meeting existing costs through cost recovery mechanisms or should they give priority to lowering the costs before trying to recover them?

Many donor agencies, including the World Bank, have tended to view the problem of financing health care services in developing countries as a problem of cost recovery. Policy reforms based on this view have therefore focused on measures, such as user charges and insurance, intended to generate additional revenues to meet recurrent resource needs. However, the potential to actually reduce costs by eliminating waste in health systems has not been given adequate attention.

The health care situation in Mali represents a case study in the difficulties of providing effective care in poor countries. The share of health expenditures in the government's budget amounted to nearly 9 percent at the beginning of the 1970s but has fallen to about half that level since then. Households bear most of the burden of health financing, accounting for about 75 percent of total sectoral expenditures in 1986.

Revenues from user charges represent only a small fraction of operating expenditures in government health facilities. Changing the present system so that cost recovery becomes a significant proportion of actual expenditures would

be extremely difficult.

However, realistic possibilities exist for reducing the costs of pharmaceuticals, which accounted for over 50 percent of total health expenditures in 1986. Brunet-Jailly's analysis shows that with improved drug management practices, Mali would not need additional external aid to make drugs available in its health units and dispensaries. This example suggests that the therapy for improving public health services should be based primarily on cost reduction, not simply cost recovery.

The conditions that govern access to health care and drugs in the poorest countries today are grossly inequitable. Only cost reduction can diminish this enormous inequity and give the poor better access to health care services. Such a focus on cost reduction is consistent with the goals of the Bamako Initiative.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger study undertaken by PRE of African health policy. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (41 pages, with figures and tables).

693. Report on Adjustment Lending II: Lessons for Eastern Europe

Vittorio Corbo

The countries of Eastern Europe have much to gain from stabilizing their economies and integrating them with the world economy. They should make trade reforms a high priority. Policymakers there should look at the recent economic history of other nations for lessons.

The Bank introduced adjustment lending in 1979 to help member countries restructure their economies to create conditions conducive to equitable growth while maintaining a sustainable balance of payments. Adjustment lending sets policy reforms as conditions of a loan.

A review of the experience of other nations with adjustment problems may provide useful knowledge for Eastern Europe as the region attempts to make the transition to market economies and to integrate with the world economy.

Reforms such as those that Eastern Europe is initiating now have little precedent in recent economic history. Evidence from other countries indicates, however, that output levels are likely to suffer in the early years of massive economic restructuring. Governments must be aware of these adjustment costs, which represent an investment in a better economic system.

If they want their investment to be highly profitable, they must prepare a coherent program, hold fast to their policies, and remove impediments to factor allocation. As the credibility of the reforms increases, investment and output will respond. Recent experience in other countries suggests several constructive steps that Eastern European countries can take to ease their transition to market economies:

- Policymakers should place a high priority on dealing with high open or repressed inflation and other manifestations of severe macroeconomic imbalances such as unsustainable current account deficits or very large positive real interest rates.
- At the same time, they should remove restrictions on labor mobility and on the exit and entry of firms at the same pace as they liberalize trade. In that way, reforms can achieve an increase in output early rather than causing increasing unemployment.
- Decisionmakers should move early to create markets for working capital financing — with appropriate mechanisms to assess credit risks —in order to encourage economic restructuring. The creation of a full-fledged financial system is not urgent and should take place only after the countries have achieved economic stabilization.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to emprove the understanding of policy reforms in Eastern Europe. Copies are available free from the World Bank, 1818 H Street NW, room N11-035, Washington, DC 20433. For Bank staff, please contact Aludia Oropesa by electronic mail (41 pages, with tables).

694. Labor Markets in an Era of Adjustment: An Overview

Susan Horton, Ravi Kanbur, and Dipak Mazumdar

This overview of a symposium on labor markets and adjustment concludes that: (1) real wages are more flexible than generally supposed, (2) labor reallocations across sectors have been more or less in the desired direction, and (3) the role of labor unions, generally supposed to be an impediment to adjustment, is more subtle than generally supposed.

Horton, Kanbur, and Mazumdar have written an overview of 19 papers in a symposium devoted to an examination of the interaction between labor markets and adjustment. The purpose of their commentary is to draw general conclusions and policy lessons and to identify areas for further research.

The papers include 7 issue papers and 12 country studies (Argentina, Brazil, Bolivia, Chile, Costa Rica, Côte d'Ivoire, Egypt, Ghana, Kenya, Korea, Malaysia, and Thailand). The country studies bring together a wealth of information that will be useful to researchers.

The evidence on real wages casts considerable doubt on theoretical concerns about aggregate real wage rigidity and labor market inflexibility as a hindrance to adjustment. Declines in real wages have been dramatic and often far greater than the fall in GDP. For some countries, the declines in real wages may have been large enough to have aggregate demand effects that inhibit recovery.

The country studies find that, by and large, sectoral employment shifts have been in the desired direction, that is, towards tradables.

In contrast to the general view of labor unions as an impediment to adjustment, the papers in this symposium present a more varied and subtle picture. Union responses to adjustment programs range from militant opposition to active cooperation. And the strength of unions need not bear any simple relation to the prospects for recovery.

While in some Latin American countries (Argentina and Brazil), unions receive the blame for lack of adjustment, in Costa Rica their presence did not prevent moderate adjustment. And in Bolivia, much labor legislation was dismantled,

yet a strong recovery has not yet begun. In Africa and particularly in Asia, the studies do not see unions as major obstacles to adjustment in the aggregative sense.

The studies also discuss the consequences of labor market adjustment on income distribution, gender, and human capital. The conclusions here are less clear-cut.

The issue papers highlight complexities that point to country-specific answers. While real wage declines will worsen poverty, improvement in the rural-urban terms of trade during adjustment will have the opposite effect. Similarly, while employment shrinkages in general are likely to affect women adversely, given their weaker attachment to labor markets, a high female-labor intensity of tradables can serve as a countervailing force.

This paper — a product of Studies and Training Design Division, Economic Development Institute — is part of a larger effort in PRE to understand the behavior of labor markets in the process of structural adjustment of the economy. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Marshall Schreier, room M4-023, extension 36432 (70 pages, with figures).

695. Long Term Prospects in Eastern Europe: The Role of External Finance in an Era of Change

Ishac Diwan and Fernando Saldanha

What should the governments of Eastern Europe and the public and private institutions in the West do to promote the successful movement to a market economy?

Private investors have an important role to play in the ongoing process of reform in Eastern Europe. So external creditworthiness is crucial to a successful transition. Large government borrowing crowds out the formation of private contracts between international investors and domestic entrepreneurs and firms. Given the overall credit ceiling in international lending, the public sector needs to curtail its external borrowing to leave room for the private sector.

This also implies that public debt reduction may be especially desirable in the highly indebted countries of Eastern Europe. Rather than flood the public sector with new loans, international organizations should attempt to improve domestic creditworthiness by supporting debt reduction and borrowing restraints during the transition period. Such a strategy would also force governments to finance their deficits internally, thereby increasing accountability.

Debt for equity swaps represent an attractive vehicle for debt reduction in the highly indebted countries of Eastern Europe. Such schemes, when tied to the privatization effort, are not inflationary — unlike the case of the public debt for private equity schemes of Latin America. They simply represent a swap of public liabilities, and they create value to the extent that foreign private investment leads to positive externalities. The challenge will be to create swap mechanisms that will allow the Eastern Europe countries to retain a large share of those gains.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to examine the effects of external finance and external debt on the process of reforms in Eastern Europe. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheilah King-Watson, room S8-040, extension 33730 (42 pages).

696. Macroeconomics of Public Sector Deficits: The Case of Chile

Jorge Marshall and Klaus Schmidt-Hebbel

Chile's success suggests that fiscal stabilization is a prerequisite for structural reform — and that structural reform need not be postponed until stabilization is fully achieved.

Marshall and Schmidt-Hebbel analyze the structure of public deficits in Chile, distinguishing between consolidated nonfinancial public deficits and quasifiscal losses of the Central Bank — focusing on the determinants and sustainability of the deficits.

In the framework of an estimated portfolio model, they simulate the path of domestic inflation and interest rates for money-financed and debt-financed deficits.

Then they trace the effects of deficits, and their form of financing, on private consumption and investment — focusing on empirical estimates of the different channels through which public spending and taxation crowd in or crowd out private spending.

Finally, they measure the spillover effects from the deficit to the real exchange rate and the trade surplus.

Chile's successful experience suggests that fiscal stabilization is a prerequisite for structural reform — and that structural reform need not be postponed until stabilization is fully achieved.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of PRE's series of case studies on the macroeconomics of public sector deficits. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Susheela Jonnakuty, roomN11-039, extension 39074 (99 pages).

697. Volatility Reversal from Interest Rates to the Real Exchange Rate: Financial Liberalization in Chile, 1975-82

Paul D. McNelis and Klaus Schmidt-Hebbel

Data for Chile (1975-82) indicate that liberalizing the capital accounts does not eliminate variations in the domestic interest rate but shifts them to the real exchange rate.

McNelis and Schmidt-Hebbel analyze the dynamic adjustment of the real exchange rate, the domestic interest rate, and foreign borrowing under conditions of perfect and imperfect capital mobility during financial liberalization.

Making use of a two-sector model with current and capital accounts interacting, they show that the domestic interest rate is more volatile under imperfect mobility and the real exchange rate more volatile under perfect mobility.

So liberalizing the capital accounts does not eliminate variations in the domestic interest rate but shifts them to the real exchange rate.

Studying data for Chile during the period of financial liberalization from 1975 to 1982, they found that the domestic

interest rate became less volatile and less responsive to domestic variables — and more dependent on the covered international interest rate.

And the real exchange rate became more responsive to domestic wealth.

Foreign reserve holdings and net exports followed a similar pattern: the covered international rate had stronger effects on reserve changes while real wealth became more important for determining net exports.

This paper — a product of the Macroeconomic and Growth Division, Country Economics Department — is part of a larger effort in PRE to understand the role of structural reforms in macroeconomic adjustment. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Susheela Jonnakuty, room N11-039, extension 39074 (34 pages).

698. Tax Policy Options to Promote Private Capital Formation in Pakistan

Andrew Feltenstein and Anwar Shah

In Pakistan, at least, changes in corporate tax rates are probably better instruments for promoting capital formation than are increased investment tax credits. Increasing the investment tax credit stimulates more capital formation than does decreasing corporate taxes, but the tax credits also increase inflation.

Feltenstein and Shah developed a simple two-period general equilibrium model to analyze the macroeconomic impact of tax policies in Pakistan. They analyze two scenarios.

In scenario 1, the investment tax credit rate is increased from 15 percent to 30 percent. The new fiscal regime increases investment but also significantly increases inflation.

In scenario 2, the original investment tax credit rate is retained but the statutory corporate tax rate is reduced. Welfare improves more than under scenario 1.

Feltenstein and Shah conclude that in Pakistan, at least, changes in corporate tax rates are probably better instruments for promoting capital formation than are increased investment tax credits.

In particular, cuts in corporate taxes improve welfare more than do increases in investment tax credits.

Increasing the investment tax credit stimulates more capital formation than does decreasing corporate taxes, but the tax credits also have significant macroeconomic consequences.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a series of PRE discussion papers evaluating the tax incentives for industrial and technological development. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-053, extension 37699 (27 pages).

699. Regulation and Deregulation in Industrial Countries: Some Lessons for LDCs

Ralph Bradburd and David R. Ross

How regulatory misdirection often derailed efforts to offset market failure in the United States, and the implications for policy in developing countries.

The United States experience with antitrust and with directive regulation in the rail, trucking, airline, and telephony sectors offers useful lessons for developing countries. The experience highlights the realities both of market failure and of the difficulties of implementing regulation to control it — and reveals that imperfect regulation may be no better than imperfect competition.

Antitrust measures to regulate price fixing and to require approval for mergers above some threshold level of industrial concentration are straightforward to implement and have provided some gains in economic welfare. The regulation of price discrimination, restrictive vertical practices, and predatory pricing is administratively more difficult, and the potential gains are less clearly evident. In many situations, import competition can be an efficient alternative.

Direct regulation of rail, trucking, airline, and telephony was frequently inefficient, the regulatory apparatus often lost sight of its original objectives, and the regulators were captured by the regulated. For rail and trucking regulation, the regulatory outcome probably was worse than it would have been under laissez-faire.

Bradburd and Ross recommend the following hierarchy of regulatory responses to imperfect competition in LDCs:

- First, ensure that domestic markets are open to import competition to the maximum feasible extent.
- Second, in cases of nontradables and when free access to imports is impossible, adopt streamlined antitrust policies that minimize the need for discretionary judgments.
- Third, consider direct regulation of natural monopolies as a last resort, but only in an economically important sector and only if designed to minimize the likelihood of regulatory misdirection.

This paper — a joint product of the Public Sector Management and Private Sector Development Division, Country Economics Department and the Private Sector Division, Legal Department — is part of a larger effort in PRE to explore how to strengthen the efficiency of the private sector in developing countries by redefining public and private boundaries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Ernestina Madrona, room N9-061, extension 37496 (126 pages).

700. Trade Liberalization and the Transition to a Market Economy

Oleh Havrylyshyn and David Tarr

Trade liberalization is more important to Eastern and Central European economies than to reforming nonsocialist economies — and will also benefit the reforming socialist economies more. But it must be accompanied, or quickly followed, by rapid privatization.

The fundamental issues in trade liberalization are how, how much, and how fast to liberalize. Experience outside Eastern Europe indicates that speed is important and reform should go as fast as political circumstances allow, so opposition cannot build up and reverse the process.

The real reason for speed is that a big bang automatically meets the criteria for successful reform: the credibility that derives from a comprehensive, coordinated reform package and a clearly preannounced statement of the content, schedule, and goals of the reform program. If

these conditions can be met under gradual reform, gradual reform should work — but rarely is that true, and the instances of failed or partial reform are many.

Reforming socialist economies should accelerate rather than retard the pace and phasing of trade liberalization because, compared with other developing countries, these countries have:

- Far more price distortion.
- More poorly functioning or nonfunctioning factor markets.
- A more concentrated domestic production structure, with associated lack of domestic competition.

Consequently, it is only through trade liberalization that a rational price structure can be achieved during the transition.

Trade and other reform will not succeed without rapid and widespread privatization. Without privatization, the resource reallocation and supply response to trade liberalization will be less vigorous (in state-owned enterprises) and it will be necessary to maintain central government checks (such as wage controls) on the perverse behavior of decentralized firms without owners.

But even if widespread privatization of large state enterprises occurs with a lag, trade liberalization should proceed rapidly for the following reasons:

- The political environment is now favorable for trade liberalization. Failure to seize the opportunity to liberalize trade might create a permanently protected economy, as politically powerful interests are likely to emerge who will want to maintain protection in their sectors.
- The supply response from small and medium-sized firms, which can be privatized almost immediately, and from large private firms created by foreign direct investment — should be strong.
- Better price signals will improve resource allocation even in state-owned enterprises.
- Trade liberalization often complements, and therefore accelerates, the privatization process.

This paper — a joint product of the Trade Policy Division, Country Economics Department and the Trade and Finance Division, Technical Department, Europe, Middle East, and North Africa Regional Office — is part of a larger effort in PRE to examine questions relating to the transition from a socialist to a market economy. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Nen Castillo, room N10-033, extension 37961 (51 pages).

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701. Education and Adjustment: A Review of the Literature

Andrew Noss

There appears to be a causal link between adjustment and education but the nature of the link varies widely and is poorly understood. More monitoring, research, and analysis are needed.

Many recent studies evaluate the effects of adjustment on economic growth and on the poor, but few assess the specific impacts of adjustment on the education sector. Noss assesses what is known about how adjustment (particularly World Bank adjustment lending) affects education.

He concludes that reliable evidence about the effect of adjustment policies on education is limited.

Most critics of adjustment programs say little about education directly and do not distinguish the effects of adjustment measures from the effects of international recession, fiscal constraints, or structural problems. Early adjustment programs ignored education issues — but adjustment lasted longer than expected, so the Bank has broadened its approach to protect education from the negative effects of adjustment.

Relevant data are scarce and of poor quality. The most common indicators — aggregate financing and enrollment indicators — are difficult to interpret. Moreover, analyses may compare indicators between two before-and-after points but say nothing about how or why indicators change.

The effects of changes in financing on coverage, quality, and equity of education are by no means obvious. Education has a long gestation period, so the impacts of adjustment may not yet be evident. Country studies are probably the best framework for analyzing the adjustment process. The database of key education indicators must be improved.

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to understand the education sector in the broader context of Bank operations, particularly adjustment programs. It is the second step in a research agenda that includes analysis of how the education sector should be treated in public expenditure reviews in the context of adjustment (see WPS 510) and of how adjustment-related operations affect the education sector. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cynthia Cristobal, room S6-035, extension 33640 (68 pages with figures and tables).

702. Should Price Reform Proceed Gradually or in a "Big Bang?"

Sweder van Wijnbergen

In a big bang. Under gradual decontrol, speculation and hoarding create shortages which make reformist governments vulnerable to early perceptions of failure — a strong argument against *gradualism in the decontrol of prices.*

Should countries such as Poland or the USSR move toward more flexible prices gradually or in a "big bang?"

Why is it that governments committed to eventual price flexibility so often seem to be unable to let go of "temporary" controls?

Why, after price increases early in a program of price controls, does output often rise at the same time that shortages seem to increase?

Van Wijnbergen argues that intertemporal speculation, hoarding, and the political economy of price control help explain these puzzles.

The interaction between shortages and the political vulnerability of reformist governments to early perceptions of failure is a strong argument *against* gradualism in the decontrol of prices.

An earlier version of this paper has been circulated under the title *Intertemporal Speculation, Shortages, and the Political Economy of Price Reform.*

This paper is a product of the Country Operations 1 (Mexico) Division, Country Department II, Latin America and the Caribbean Regional Office. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Margaret Stroude, room I8-155, extension 38831 (29 pages, with figures).

703. The Political Economy of Fiscal Policy and Inflation in Developing Countries: An Empirical Analysis

Sebastian Edwards and Guido Tabellini

Despite recent advances in understanding the macroeconomics of fiscal policy in developing countries, few studies has asked why fiscal policies differ from country to country or what institutional or legal arrangements help maintain fiscal discipline. This paper finds a positive correlation between political variables (coups, elections) and specific fiscal policy actions using a political economy approach.

Most economists treat fiscal policy as exogenous and consider policymakers as machines to be programmed. Rarely do they seek to determine why, for instance, some countries rely on the inflation tax while others use direct taxation, let alone what political factors affect such decisions. Yet without a theory of how fiscal policymakers behave, at both the revenue and the expenditure levels, there is no guarantee that policy advice will turn out to be sound.

Edwards and Tabellini present the results of an empirical analysis of the political economy of fiscal policy for a group of developing countries. They look at alternative ways of incorporating political variables into the explanation of government policy actions. Dividing their results into three sections, one each for inflation, budget deficits, and devaluations, they find that:

- The equilibrium inflation rate is higher the more citizens disagree about which party should hold office, and the more unlikely it is that the government currently in office will be reappointed.
- Political instability and polarization lead to a collective myopia that sometimes tempts policymakers to borrow too heavily and to leave the bills to their successors.
- Governments tend to implement adjustment policies — including major devaluations — early in their tenure in office, when they command political authority. But if political conflict arises, they may lack the strength to change the macroeconomic status quo and will resort instead to inflation and deficits.

Edwards and Tabellini argue that their results have important implications

for the design of adjustment and stabilization programs. Institutional reforms that make it harder for a government to reverse course without warning will increase the credibility of the reforms, thereby reducing political instability — and the equilibrium level of inflation. The creation of independent central banks should also be a priority. This and other reforms that take money creation out of the hands of governments will boost macroeconomic stability

Their results serve as a general endorsement of World Bank conditionality.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to study the political economy of fiscal policies in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Ann Bhalla, room N10-061, extension 37699 (80 pages, with tables).

704. Costs and Finance of Higher Education in Pakistan

Rosemary Bellew and Joseph DeStefano

Available educational resources could be used more effectively by reducing the proportion of nonteaching employees — most of them servants — and by reallocating those resources to faculty and instructional materials. Pakistan's government should not allocate more resources to the sector until it has established better mechanisms for allocating resources and has established incentives and sanctions to improve institutional performance.

Using data from colleges and universities, Bellew and DeStefano investigate the costs and effectiveness of higher education in Pakistan, identify factors that influence those costs and effectiveness, and estimate levels of study subsidies.

Not surprisingly, they find that most colleges and universities are underfunded. They operate with minimal faculty, spend little on learning materials, and cannot cut costs by enrolling more students (with current faculty levels) without jeopardizing the quality of education.

Available resources could be used more effectively by reducing the proportion of nonteaching employees — most of them servants — and by reallocating those resources to faculty and instructional materials.

Student performance in examinations is consistent with the level and use of resources. Most students fail examinations, particularly in crowded institutions that offer few courses. And those who pass do so largely through their own efforts, not because of the quality of teaching.

There are no institutional incentives for achievement or penalties for failure. Colleges and universities are not held accountable for the quality of instruction, cost recovery is low, and the government demands no standards. It would be imprudent for the Pakistani government to allocate more resources to the education sector until mechanisms have been established for more effectively allocating resources within and among institutions and for establishing incentives and sanctions that create pressure to improve institutional performance.

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger World Bank sector study on higher education in Pakistan. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cynthia Cristobal, room S6-214, extension 33640 (57 pages, with figures and tables).

705. What Causes Differences in Achievement in Zimbabwe's Secondary Schools?

Abby Rubin Riddell and Levi Martin Nyagura

Textbooks and teachers are important in raising achievement, but more research is needed on what characteristics differentiate high-achieving schools from low-achieving schools.

Riddell and Nyagura found that students who attended high-fee-paying (trust) schools, elite urban government schools, and mission schools scored better in mathematics and English achievement than did students in the less-well-endowed government schools and those established by local councils.

Much of the variation in student achievement was attributable to the schools the student attended. Examination results were higher in schools with a high proportion of trained teachers, with a good supply of textbooks, and with a stable faculty (high teacher retention).

But once researchers control for these factors, contrary to expectations, some underendowed local council and government schools are more effective at boosting achievement than their counterparts with more resources.

So, textbooks and teachers are important in raising achievement, but more research is needed into what characteristics differentiate high-achieving schools from low-achieving schools.

This paper — commissioned by the Population and Human Resources Operations Division, Southern Africa Department, Africa Regional Office, jointly with the Education and Employment Division, Population and Human Resources Department and Zimbabwe's Ministry of Education and Culture — was prepared as a background paper for a review of primary and secondary education in Zimbabwe. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cynthia Cristobal, room S6-214, extension 33640 (55 pages, with tables).

706. Successful Nutrition Programs in Africa: What Makes Them Work?

Eileen Kennedy

The seven factors associated with successful nutrition programs in Africa. And a call for evaluations that focus on process as well as outcomes.

Little of the literature on nutrition between 1960 and the 1980s included assessments of effective nutrition programs. In this important study, Kennedy focuses on factors associated with successful nutrition programs in Africa.

In 1989 the World Bank mailed a survey to 330 people: 110 responded, and 66 nutrition programs were identified as successes. Kennedy includes case studies for six of these (two in Mali and one each in Ghana, Nigeria, Togo, and Zaire) in the report.

Seven factors (which Kennedy discusses at length, with illustrations from the case studies) were mentioned repeatedly as important to the success of nutrition programs:

• *Community participation.* For community-based programs to be successful, even with active local involvement, some implementors suggest that there needs to be awareness and commitment of the leadership at higher levels of government.

• *Program flexibility.* Donors should commit themselves to a project long enough that approaches that don't work in certain areas can be modified.

• *Institutional structure.* It is more important to use an existing institution, even if it is not ideal, than to create a new institution. Donors are typically interested in working with the public sector, but many of the success stories had strong ties to the private sector.

• *Recovery of recurrent costs.* A contentious issue. Some respondents claimed that if cost recovery is an indicator of success, there are no success stories. The extent and depth of poverty in Africa will necessitate external financing for years to come.

• *Multifaceted program activities.* In the more effective programs, nutrition is linked to broader activities involving food security and income-generating activities.

• *Well-trained and qualified staff.* Projects cannot create the charismatic leaders associated with many successful projects but inadequate support can stifle them.

• *Infrastructure.* Programs and projects work better in areas where there is physical infrastructure and an adequate health care delivery system.

Kennedy concludes that these findings are preliminary and require further validation on the ground. If we are to understand what works, programs need to be evaluated better not only for outcomes but also for design and management.

And all evaluations — internal and external — should focus on process as well as outcomes.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to identify "best practices" in program implementation in the population, health, and nutrition sectors. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (50 pages).

707. Population, Health, and Nutrition: Fiscal 1990 Sector Review

Population, Health, and Nutrition Division, Population and Human Resources Department

The population, health, and nutrition (PHN) share of total Bank lending has grown rapidly in recent years, increasing from 0.3 percent of total lending in fiscal 1987 to 4.5 percent in fiscal 1990. In addition, PHN work focuses much more on policy than it did in the past.

World Bank lending in the population, health, and nutrition (PHN) sectors increased significantly in fiscal 1990. Over the past five years, PHN lending has grown rapidly both in the number of projects and in the amounts of loans and credits. The future lending portfolio indicates continued growth. Bank support of nutrition activities, both within the PHN sectors and as components of projects outside the PHN sectors, has expanded significantly.

The content and focus of PHN lending and sector work during fiscal 1990 respond to the needs of borrowing countries and to the Bank's emphasis on human resources development and poverty, and reflects the pertinent issues that PHN sector development work poses today. PHN work now focuses much more on the policy level than it did in the past. Health financing issues continue to be rigorously addressed as a priority. The use of local consultants and the participation of beneficiaries in Bank work is on the rise. Increased attention has been focused on NGOs in recognition of the important role they play in the PHN sectors. Social sector development operations, a new feature of PHN lending, have presented challenges to the Bank because of the streamlining and coordinating of roles and responsibilities in the Bank and at the national level that they require. Efforts to raise cofinancing and coordinate aid are being intensified because of the acute shortages of resources for the sectors in many borrower countries.

The Bank still faces important challenges in its effort to improve the effectiveness of its interventions in the PHN sectors. First and most important, the Bank has not yet comprehensively addressed all facets of the population issue, which encompass full and rigorous consideration by country operations and senior management staff, as well as effective and efficient delivery of family planning services. Second, while most PHN staff appreciate the importance of addressing management and institutional development issues, the quality and depth of PHN interventions in this regard vary.

The review suggests a number of recommendations for further improving the Bank's performance in the PHN sectors. On the technical side, the Bank should (1) continue to focus and improve its interventions at the policy level; (2) address management and institutional development issues more rigorously and comprehensively through project, sector, and research work; (3) squarely address and encompass the role of the private sector and NGOs in the design and delivery of PHN interventions; and (4) continue efforts to address and resolve PHN financing issues, given its comparative advantage in this regard.

Internally the Bank should (1) address the need to expand staff to accommodate continued growth likely in Bank work in the PHN sectors and (2) encourage greater use of experts from developing countries and the participation of beneficiaries in Bank work.

Because a population strategy paper is at an advanced stage of preparation, this review withholds suggestions for improving the effectiveness of the Bank's work in the population sector.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to increase awareness of the lessons learned from the Bank's operational work. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (69 pages, with tables).

708. Nongovernmental Organizations and Health Delivery in Sub-Saharan Africa

Jocelyn DeJong

This paper sets out the distinctive characteristics — both positive and negative — of NGOs as institutions for providing health care in Africa. It raises questions about environments conducive to NGO activity

and how the role of NGOs can be encouraged without sacrificing their strength in the development process.

Although nongovernmental organizations make an important contribution to health care in Sub-Saharan Africa, there has been little detailed information about their activities. And few African governments set guidelines for NGO performance or coordinate activities with them. The lack of knowledge about NGO activities and the lack of coordination and policy oversight could impede African governments in achieving the most efficient use of national resources for health — whether public, private, or nongovernmental.

DeJong reviews the historical role of NGOs in health care in Africa and discusses the economic and political forces that have combined to bring the NGOs into greater prominence and increase the funds channeled through them. She examines the advantages and the disadvantages of NGOs operating in the health sector. Some of the advantages proponents of NGOs point out are greater motivation of staff, community-based structure, small scale, a willingness to work in peripheral areas, intersectoral scope, and greater efficiency. But NGOs depend on external funding, which may not continue indefinitely, and on foreign personnel, whose generally short stints with the NGOs create problems of continuity. NGOs typically fail to document their activities, making it difficult to evaluate the activities or to build on the NGOs' experience. And differing standards of qualification for personnel pose problems in transferring personnel between NGO and government facilities.

DeJong cautions that more rigorous assessment and evaluation of NGOs' capacity is of critical importance to ensure that the funds channeled through them are used efficiently. She suggests possible policy approaches that governments could adopt to reduce the likelihood of conflict with NGOs — and ways that governments can capitalize on the strengths of NGOs to increase their contribution to the national health care system. DeJong urges NGOs to view themselves as an integral part of the national health care system, to conform to national health policies, and to do more in policymaking. Finally, she encourages donors to consider how NGOs can be more than conduits for funds — and allowed to make the most of their strengths.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger study undertaken by PRE of African health policy. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (27 pages).

709. An Empirical Macroeconomic Model for Policy Design: The Case of Chile

Luis Serven and Andres Solimano

A model focusing on the design and evaluation of macroeconomic policy is applied to Chile.

Serven and Solimano construct, estimate, and simulate a macroeconomic model for Chile. This model allows aggregate supply and demand factors to interact in determining such key economic variables as inflation, the real wage, the real exchange rate, real output and employment, and the current account balance.

The model ensures the consistency of different aggregates by imposing the relevant budget constraints on the fiscal sector, the central bank, and the balance of payments. To this consistent framework, the model adds behavioral equations with sound analytical foundations.

Serven and Solimano use model simulations to explore the effects of domestic policies and external shocks (like a balanced-budget fiscal expansion, a policy of increased growth in minimum wages, a fall in world copper prices, and an oil price shock). These simulations help illustrate the effects of economic policies and external factors that shape current policy discussions in Chile.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to design applied macroeconomic models for the evaluation of macroeconomic policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Susheela Jonnakuty, room N11-039, extension 39074 (79 pages, with figures, graphs, and tables).

710. Urban Property Tax Reform: Guidelines and Recommendations

William Dillinger

Property taxes are a potentially attractive way to finance municipal government, but property taxes typically provide less than 20 percent of municipal revenues. Procedural, policy, and institutional reform can be achieved only in the context of the wider restructuring of local finance — because property tax carries a heavy political price.

The property tax is a potentially attractive way to give local governments access to a broad and expanding tax base. Unlike the mix of intergovernment grants and indirect taxes that now dominate municipal revenues, it can also promote broader objectives of efficiency — linking the provision of municipal services more closely to their financing, and rationing the consumption of municipal services by price.

But urban property taxes, albeit ubiquitous, typically yield less than 20 percent of municipal revenues.

In part, these low yields reflect failures in the administration of the tax. Many properties are missing from the tax rolls, or are inaccurately valued, and collection is extremely inefficient. There should be procedural reforms to improve coverage, the accuracy of valuation, and the efficiency of collection.

But procedural improvements alone are not enough. Tax rates must also be increased. The scope of reform must be expanded to address the systems for rate-setting and revaluation and the incentives confronting tax administrators. Certain rules should apply:

- Control over tax policy (including rate setting) should generally be assigned exclusively to the entity most directly affected by it — municipal government.
- Taxes must be indexed. To maintain the real level of tax liabilities, tax authorities must either revalue annually (which is expensive) or increase nominal tax rates. One practical solution is to address inflation by adjusting valuations "from the office" on the basis of a common inflation indicator.
- To give the tax administration agency an incentive to perform, the agency should be placed on a paid, contractual basis so it has a direct financial interest in tax performance.

For all its economic virtues, the property tax carries a high political price. Its effectiveness in confronting taxpayers with the cost of municipal services gives it an unusually high political profile in developing countries. As a result, where local authorities have access to less efficient but more politically acceptable revenue sources those tend to be exploited first.

So property tax reform can be achieved only in the context of wider restructuring of local finance. The object of such reform should be to reduce the extent of arbitrary subsidies between jurisdictions and to confront local taxpayers with the cost of services they consume.

This paper — a product of the Urban Development Division, Infrastructure and Urban Development Department — was prepared for the municipal finance component of the joint UNDP/World Bank/UNCHS Urban Management Program (UMP). This report is the first of a series of management tools to be produced by that component. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Vino David, room S10-139, extension 33734 (46 pages).

711. Financial Reform in Socialist Economies in Transition

Millard Long and Silvia B. Sagari

The restructuring of banks must be tied to the restructuring of industrial enterprises, to macroeconomic stabilization, to price reform, and to the resolution of ownership problems. These problems, which will take years to resolve, require a commitment to reform, clear ideas about what is to be achieved, and realistic expectations about the difficulties that will be encountered.

Focusing mainly on banking reform, Long and Sagari propose a model for the financial structure of a socialist economy in transition.

Such a financial system, they say, would include a few large, competitive national commercial banks. These banks would not be specialized in the sectors they serve or their type of lending. They would be commercial rather than universal banks — that is, they would not own firms or engage in securities or insurance business. However, in countries that follow the universal model, banks could be owned by holding companies that would also own other financial intermediaries but not industrial or commercial ventures.

Long and Sagari rule out greater universalization of banking at this time to limit mismanagement, fraud, risk, and losses. They prefer simpler financial intermediaries because they are easier to manage, more transparent, and easier to supervise.

Equity in the banks or bank holding companies should be widely distributed to the private sector through whatever method is selected for privatizing firms. But the banks should not be privatized (unless by sale to foreign banks) until they have been made financially solvent — by cleaning up their portfolios. For socialist economies with excessive bad debts, this means making hard decisions about the major loss-making industrial enterprises.

Bank restructuring must proceed in pace with industrial restructuring, price reform, and macroeconomic stabilization.

Fast administrative restructuring of the banks is preferable to slow restructuring, contend Long and Sagari. But once the basic structure is efficient, further changes — such as new entries, mergers, and the sale of branches — can be left to the market process.

Other measures that should be taken:

- Interest rates should be raised on the outstanding mortgages of the savings banks and on other subsidized credits to market rates.
- Central banks should absorb the huge foreign exchange losses of the foreign trade banks.
- In countries where it has not been done, new legislation and regulations should be drafted, auditing and accounting improved, supervisory procedures established, and bankers' training institutions developed.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in PRE to analyze sector reform in socialist economies in transition. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Maria Raggambi, room N9-033, extension 37657 (19 pages).

712. Foreign Direct Investment in Developing Countries: Patterns, Policies, and Prospects

Thomas L. Brewer

Absolute flows of foreign direct investment (FDI) might increase significantly in some countries, but the developing countries' share of total world FDI flows will probably remain relatively low (about 15 percent) largely because FDI in the United States will continue at high levels. To attract more foreign direct investment, developing countries must maintain both favorable macroeconomic policies and a climate favorable to FDI.

Drawing on the findings in 11 country studies, Brewer concludes that the public policy environment for foreign direct investment (FDI) has improved in recent years. There is more appreciation of FDI's contributions (such as the transfer of technology and managerial skills, the development of export markets, and the stimulation of local entrepreneurship, competition, and innovation) and greater appreciation of the role of the private sector and private investment in development.

But to improve the flow of FDI into development, more is needed — especially changes in policies toward FDI and changes in macroeconomic policies and conditions.

Positive policy shifts have improved the climate for FDI in Korea, Mexico, and Nigeria. Continuing restrictions limit FDI flows to India, Brazil, and some of the largest developing countries. Macroeconomic conditions and policies will continue to affect FDI flows and to dominate investors' decisions, as recent experiences in Mexico and Brazil indicate.

Policy reform designed to attract investors will be only marginally effective unless accompanied by appropriate macroeconomic policies. Marginal, isolated policy changes are not enough. Investors risk estimates are highly sensitive to perceptions of change and uncertainty.

Developed countries' guarantee programs to protect their own investors against noncommercial risks associated with FDI projects in developing countries — together with other developed country promotional activities — are an important part of the policy framework that affects FDI in developing countries.

Total FDI flows to developing coun-

tries are unlikely to rise significantly in the next few years. Average flows of about SDR15 billion a year (or 1 percent of developing countries' GDP) are likely for the next three years.

Absolute flows of FDI might increase significantly in some countries but the developing countries' share of total world FDI flows will probably remain relatively low (about 15 percent) largely because FDI in the United States will continue at high levels.

This paper was completed under the supervision of Kwang W. Jun. The background paper for this report is available on request. The background volume reviewed FDI experiences of 11 developing countries in three regions: Argentina, Brazil, Colombia, and Mexico in Latin America; India, Indonesia, Malaysia, Korea, and Thailand in Asia; and Kenya and Nigeria in Africa. The main author of the background paper was Gyorgy Becsky. Other contributors were Young-Hoi Lee and Aloysius Ordu.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to assess the potential for increasing foreign direct investment in support of economic development. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-045, extension 31047 (58 pages).

713. The Determination of Wages in Socialist Economies: Some Microfoundations

Simon Commander and Karsten Staehr

Wages are commonly assumed to be exogenously determined in socialist economies. But wages in socialist economies have been determined by a combination of institutional and economic factors.

Commander and Staehr address the issue of how wages are determined in socialist economies.

They distinguish between different types of economic regime, in terms of how much decentralization is permitted and how extensive are market-based features or rules.

Wages are commonly assumed to be exogenously given in socialist systems, regardless of regime. Commander and Staehr show that this assumption is not warranted, given the use of incentive-based systems in these economies.

Both the classical planned economy and the partially reformed regime face the problem of motivating workers in the absence of monitoring and of such conventional penalties as unemployment. How do these regimes try to resolve the incentive problem?

In a centrally planned economy, the piece-rate mechanism is an attempt to stimulate more effort among workers. But Commander and Staehr show, using game-theoretic models, that in cooperative settings the outcome can be lower productivity than desired and that in noncooperative settings the outcome can be higher wages than warranted.

They interpret the partially reformed socialist economy as an attempt to refine the motivational structure by introducing a manager between the planner and the workers. One objective is to provide a framework in which workers and managers engage in a cooperative game to determine wages and output with the incentive structure given in effect by the planner. They show how this can yield undesired results, when managers and workers cooperate, playing a noncooperative game with the planner.

They present a preliminary treatment of an economic regime such as the one that existed in Poland after January 1990, where market-based rules almost fully predominate. Their objective is to provide coherent foundations for wage equations that can be tested empirically.

They prepare estimates for the partially reformed economies of Hungary and Poland.

Data and other limitations limit the conclusions that can be drawn. But Commander and Staehr show wages to be strongly associated with prices and rather less strongly associated with productivity. Hence, wages should not be considered fully exogenous, even if institutional and other factors indicate more exogeneity than would exist in a standard market economy.

This paper — a product of the National Economic Management Division, Economic Development Institute — is part of a larger effort in PRE to analyze the sources and dynamics of inflation in transitional socialist economies. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Olga Del Cid, room M7-047, extension 39050 (62 pages).

714. Women in Forestry in India

Ravinder Kaur

Women play a much greater role in forestry in India than has previously been documented — and their involvement in forestry should be strengthened.

For projects to succeed, it is essential to document women's relationship to forests. — in the context of their roles in different farming and food supply systems, domestic tasks, and income-earning activities. Such documentation would reveal ways to generate employment and income for women.

The minor forest product economy, for example, which is dominated by women, has never been the focus of government policy or a specific component of social forestry projects. Social forestry projects tend to be oriented to cash crops, which mostly benefit men.

The fuelwood and fodder crisis has focused on problems of domestic subsistence; planners have been blinded to women's equally important role in the nondomestic forest economy. Forest-based activities are often poor women's main — sometimes only — source of income, particularly where women have no property rights in land. Women who have property rights only in livestock also depend on fodder, a product of forests and common property resources. Forests also provide food, medicines, and other products useful to poor people, especially in times of famine.

The urban poor bear the brunt of the fuelwood crisis, especially as fuel prices rise. But the headloading of wood (collecting wood for sale) by rural women partly reflects their lack of jobs and income. Headloaders meet a crucial energy need but also contribute to the degradation of forests. This degradation can be reversed only by increasing biomass production and generating more jobs and income for women. Social forestry programs must be broadened to include women, watershed management, the management of common property resources, and such related enterprises as animal husbandry.

Women can and do carry out most forestry tasks, even such arduous ones as

pit digging, watering, and soil work. Women involved in small-scale forest-based industries — such as bidi-rolling (indigenous leaf cigarettes) and basket-making — must be helped to improve their skills and to learn to manage the entire process from collection to processing and sale. Rights to forest produce must be more clearly delineated.

Women have successfully organized groups, reclaimed degraded land, planted forests on it, and managed forests jointly. Rights in degraded land allotted for afforestation can most easily be enforced and protected by organized women. The most important help nongovernment organizations can provide is to strengthen existing women's organizations and help build new ones. Collective organizations seem best adapted to exploit such development facilities as credit, extension advice, and access to new technology, raw materials sold in bulk, and the purchase and maintenance of labor-saving devices.

This paper — a product of the Women in Development Division, Population and Human Resources Department — is part of a larger PRE review of women and development in India. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Audrey Sloan, room S9-121, extension 35108 (78 pages, with tables).

715. Promoting Girls' and Women's Education: Lessons from the Past

Rosemary Bellew and Elizabeth M. King

One way to increase female enrollment in schools is to lower the costs of education by providing culturally appropriate facilities, scholarships, and alternative schools that offer classes in the early morning or evening. Another is to train girls and women in growth sectors of the economy and to make strong recruitment and placement efforts.

Many societies underinvest in girls' and women's education for three main reasons:

- High direct, indirect, and cultural costs.
- Too few private benefits.
- Parents' failure to consider the social benefits of education.

Research gives governments little guidance on how to raise demand for female education so Bellew and King examine what is known about which strategies worked, which failed, and which have produced mixed results or results that are difficult to interpret.

Strategies that have increased female enrollment are those that:

- Lower the costs of education by providing culturally appropriate facilities, scholarships, and alternative schools that offer classes in the early morning or evening.
- Train girls and women in growth sectors of the economy at the same time that they make strong recruitment and placement efforts.

Strategies that seem to have failed include those that distribute school uniforms and offer vocational training that is not directly linked to employment.

Too little information is available to assess the effectiveness of programmed learning, day care, home technologies, information campaigns, school meals, and the revamping of curricula and textbooks to introduce broader roles for women. More research is needed on:

- The importance parents and girls attach to the *quality* of available education when making their schooling decisions.
- Girls' and women's participation in educational programs.
- Individual, family, community, and school factors that limit girls' and women's participation and achievement.

There should also be more experiments with different approaches and more evaluation of program outcomes.

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to assist the World Bank and developing countries in their efforts to incorporate females into the development process. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cynthia Cristobal, room S6-214, extension 33640 (58 pages).

716. Financing Training: Issues and Options

Christopher Dougherty and Jee-Peng Tan

The need for justifying public training programs is often under-appreciated. International experience strongly indicates that the cost-effectiveness of alternative options should be taken into account in the design of such programs.

Many policymakers have assumed that the state should play a dominant role in providing training. Dougherty and Tan set out to appraise the rationale and scope for cost-effective government intervention to mobilize resources for training. They also document international experience with alternative arrangements.

Their review indicates that the case for financial interventions and the analysis of the incidence of interventions are complex. Several factors demonstrate a need to make the analytical input into evaluations of these interventions more rigorous.

First, this analysis can reduce the risk of a misallocation of resources — a particular hazard when interventions involve subsidies that alter the effective price of training services that employers or trainees must pay.

Second, such analysis can reduce the risk of unnecessarily increasing the burden on the public purse. Rigorous inquiry about the need for an intervention, and its likely impact, may disclose that the intervention is not justified or is justified only on a smaller scale. Another outcome might be to demonstrate that intervention is justified but that it could take a nonfinancial form.

Examples of nonfinancial interventions include the exemption of apprentices from minimum wage legislation; campaigns to increase the commitment of firms to training; and pump-priming operations such as providing technical help to establish enterprise-based training programs.

Equity and social concerns provide perhaps the clearest argument for subsidizing training through general public revenue, focusing on training activities with benefits for society beyond those accruing to individual trainees. Institutions where apprenticeship and other initial training are an alternative to continued education, and a strong case exists for subsidizing those in the training stream to the same extent as their peers in general education.

In concluding, the authors note that policymakers often overlook the complementarity between basic education and later skill development. The consequence is that resources may be spent

on expensive, low volume training programs when they might be used more cost-effectively and more equitably to upgrade the quality of basic education.

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to examine governments' role in the financing of training programs. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Cynthia Cristobal, room S6-035, extension 33640 (68 pages).

717. Does Financial Liberalization Really Improve Private Investment in Developing Countries?

Jacques Morisset

An increase in real interest rates, which is a typical element of financial reforms, does not necessarily involve a positive effect on private investment unless the authorities are careful to ensure that (1) bank deposits are closer substitutes to unproductive assets (cash, gold) and foreign assets than to capital goods, (2) the financial sector assures an efficient allocation of domestic credit, and (3) the flow of domestic credit to the private sector is not absorbed by the needs of the public sector.

Assuming that liquidity constraints exist in most developing countries, the majority of analysts believe that increasing real interest rates will raise the volume of lending and hence private investment.

Morisset, focusing on the demand for capital goods, argues that the positive effect on the domestic credit market may be offset by the negative effect of a portfolio shift from capital goods and public bonds into monetary assets. He also demonstrates that a policy of financial liberalization could increase the public sector's demand for domestic credit, thus limiting the funds available to the private sector. This crowding out does not result from a change in the government's behavior but from a shift in the portfolio of private agents. Higher demand for bank deposits reduces the private sector's willingness to hold government bonds, so the public sector must finance a given budget deficit with more domestic credit.

His simulations for Argentina for 1961-82 suggest that the low response of private investors to changes in interest rate policy in those 20 years was attributable not to the low values of interest elasticities but to the interaction of the mechanisms allowed for in the model, which tends to neutralize the impact of such policies.

Morisset concludes that the effect of changes in interest rate policy on the demand for capital goods is weak in Argentina — and might affect the quality of private investment more than its quantity.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to determine the interaction between external and domestic finance in support of investment in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-045, extension 31047 (22 pages).

718. Impact of Investment Policies on German Direct Investment in Developing Countries: An Empirical Investigation

Andrea Gubitz

As experience in Germany shows, the source country's policies might influence foreign direct investment (FDI) flows as much as the host country's policies do.

Many past empirical studies of foreign direct investment (FDI) flows have been unsatisfactory because of poor data. Gubitz, using better data on German FDI, found that:

- Developing countries might attract more FDI flows by easing investment restrictions or implementing incentives — but the effect of incentives could be modest and does not justify costly subsidies.
- A source country's policy instrument (public guarantees) is an important determinant of German FDI outflows to developing countries — a factor that has been overlooked in the past.
- Industrial countries can substantially encourage their companies to invest in developing countries by offering public guarantees. And actual costs in Germany have been low, as defaults have been rare.

This paper — a product of the Debt and International Finance Division, International Economics Department, in cooperation with the Kiel Institute for World Economics — is part of a larger effort in PRE to study the determinants of German foreign direct investment in developing countries. It was presented at the seventh conference of the European Association for Research in Industrial Economics held in Lisbon in September 1990. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-045, extension 31047 (40 pages).

719. How Trade and Economic Policies Affect Agriculture: A Framework for Analysis Applied to Tanzania and Malawi

Ramon Lopez, Ridwan Ali, and Bjorn Larsen

This general equilibrium model shows that agricultural exports are highly responsive to price incentives — and that the most effective policy instruments for expanding agricultural exports are direct export incentives and devaluation of the exchange rate.

Lopez, Ali, and Larsen provide a general equilibrium model for analyzing the mechanisms by which macroeconomic, trade, price, and exchange rate policies affect agricultural export sectors. They estimate the model empirically for Tanzania and Malawi to measure the supply responses of agricultural exportables. They find that:

- Agricultural exports are highly responsive to price incentives.
- The most effective policy instruments for promoting the expansion of agricultural exports are direct export incentives and devaluation of the exchange rate.
- Fiscal policies are not neutral with respect to the structure of agricultural production.

This paper is a product of the Agriculture Operations Division, Southern Africa Department, Africa Regional Office. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Manel Gunasekara, room H5-055, extension 32261 (43 pages).

720. The Outlook for Commercial Bank Lending to Sub-Saharan Africa

Ellen Johnson Sirleaf and Francis Nyirjesy

Key issues in the future of long-term commercial bank lending in Africa, constraints on increased commercial bank lending there, and special initiatives for removing those constraints and stimulating lending to Sub-Saharan Africa.

Since its peak in 1980-82, medium and long-term commercial bank lending to Sub-Saharan Africa has been declining — partly because of many banks' perception that lending to the African market represents high risks unjustified by the available returns.

The prospects for an appreciable increase in such lending are not promising. Despite some progress under economic adjustment programs, banks are skeptical about Sub-Saharan African governments' ability and willingness to continue with reform. Many of those countries have been unable to establish creditworthiness and the ability to service commercial debt — and are saddled with debts to multilateral agencies. And in a time of tight regulation, most banks have ample opportunities in other parts of the world.

On the positive side, the portfolio clean-up that has occupied commercial banks' resources for three years should be nearing a close, making it possible for them to begin considering a resumption of lending to qualified borrowers under specified conditions.

Sirleaf and Nyirjesy examine key issues in the future of long-term commercial bank lending in Africa, identify constraints on and opportunities for increased commercial bank lending (as perceived by some commercial U.S., European, and Japanese bankers), and suggest special initiatives for removing constraints on and stimulating lending to these Sub-Saharan African markets. Among points they make:

- Private investment and financing will not improve in the region without a satisfactory enabling environment, including an appropriate policy framework, the protection of rights and properties, and wider political participation and consensus — conditions that lead to political stability and engender confidence among private decisionmakers.
- Several steps can be taken to accelerate debt reduction through conversion mechanisms. Special funds could be created for the investment of debt, for example.
- Given the small share of African debt in most banks' portfolios and the conservative posture of those banks, a strong case can be made to the regulatory authorities to eliminate mandatory provisioning regulations as quickly as possible.
- There is scope for rethinking the way risk is allocated in facilities cofinanced by commercial banks and official agencies.
- More open attitudes toward the commitment of export cash flows appear to be important in accelerating resumed lending, until a country has adopted an open foreign exchange regime or has achieved full convertibility. Concerns about possible distortions could best be mitigated by setting a limit on the amount of funds that can be so committed by a given country or borrower, and by improved appraisal of the underlying projects.
- Commercial banks are at a disadvantage in analyzing or projecting a developing country's creditworthiness and fear of the unknown can be particularly acute in Sub-Saharan Africa. The in-depth economic analyses of the IMF and the World Bank are the closest the international community has come to establishing an "independent audit function." These are not available to the public unless the member government authorizes their release. These authorizations should be routinely granted — at least for basic, accurate, qualitative, and quantitative macroeconomic information.

This paper — a product of the Debt and International Finance Division, International Economics Department — was prepared for the Symposium on African External Finance in the 1990s, held September 18-19, 1990, at the World Bank. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheilah King-Watson, room S8-040, extension 31047 (46 pages, with tables).

721. The Demand for Money in Developing Countries: Assessing the Role of Financial Innovation

Patricio Arrau, José De Gregorio, Carmen Reinhart, and Peter Wickham

Financial innovation is important in determining the demand for money and its fluctuations, importance that increases with the rate of inflation.

Traditional specifications of money demand have commonly been plagued by persistent overprediction, implausible parameter estimates, and highly autocorrelated errors.

Arrau, De Gregorio, Reinhart, and Wickham argue that some of these problems stem from the failure to account for the impact of financial innovation.

They estimate money demand for ten developing countries, using various proxies for financial innovation. They also assess the relative importance of this variable.

They find that financial innovation can be better modeled as a stochastic (random-walk) trend rather than a deterministic (time) trend. Financial innovation plays an important role in determining fluctuations of the demand for money. The importance of this role increases with the rate of inflation.

This paper — a joint product of the Debt and International Finance Division, International Economics Department and the International Monetary Fund — is part of a larger effort in PRE to apply new monetary approaches to developing countries. It is also being distributed as an IMF working paper. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-040, extension 31047 (44 pages, with figures and tables).

722. Is Rice Becoming an Inferior Good? Food Demand in the Philippines

Merlinda D. Ingco

Improving pricing and trade policy for cereals, feed, and meat in the Philippines may be more cost-effective in improving the balance of food supply and demand than further investments in rice irrigation

— particularly if wheat consumption increasingly substitutes for rice consumption.

Using time-series data, Ingco estimates a demand system model for food — including rice, corn, wheat, meat, fish, and fruits and vegetables — for the Philippines. She finds that:

• Food demand is responsive to relative price changes. Most of the other food products are particularly responsive to changes in rice prices, an important variable in agricultural policy in the Philippines. A marked change in rice prices relative to other food prices would have important policy implications because of its relatively large share in food budgets and the relatively great response of other foods to changes in rice prices.

• In particular, as wheat prices decline, wheat consumption should increase — resulting in some substitution away from rice — because wheat and rice are net substitutes.

• The demand for wheat, meat, and fruits and vegetables is more responsive to own-price changes than are the staple foodstuffs.

• Rice, corn, wheat, and meat are net substitutes. Rice, fish, and fruits and vegetables are net complements. Wheat is a net substitute for rice, corn, fish, and fruits and vegetables — but a net complement to meat (partly because of urbanization and the proliferation of fast-food outlets in recent years).

• Urbanization increases the consumption of wheat, fish, and fruits and vegetables — and slightly decreases the consumption of rice.

• Consumption of rice and wheat can be expected to grow. Per capita consumption of corn should decline slightly.

• These trends should be considered in evaluating the costs and benefits of further irrigation investments in the rice sector. An improved pricing and trade policy in the cereals, feed, and livestock-meat sectors may be more cost-effective in improving the balance of food supply and demand than more investments in rice irrigation.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to understand the changes in food markets in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Pauline Kokila, room S7-040, extension 33716 (25 pages, with tables).

723. Improving Women's and Children's Nutrition In Sub-Saharan Africa: An Issues Paper

Olayinka Abosede and Judith S. McGuire

Nutrition is the number one health concern in Africa — and nutrition programs can be a magnet for attracting community support to the health system, especially maternal-child health programs. But nutrition is often a secondary concern of health policy, often ignored in food policy, and too often left out of training programs and work plans.

The main sources of malnutrition in Africa, as elsewhere, are inadequate food intake, excessive disease, maternal malnutrition, and deleterious food and health behavior (such as abrupt weaning, the early or late introduction of nonbreastmilk foods and liquids, the intrahousehold allocation of nutrients away from nutritionally vulnerable members of the family, the withdrawal of food during diarrhea, and poor food and sanitation practices).

Abosede and McGuire review several successful innovative approaches to addressing nutrition problems in Africa: the Iringa Nutrition Program in Tanzania, the Zimbabwe Children's Supplementary Feeding Program, the Zaire Weaning Foods Processing Program, and the Senegal Growth Promotion Program.

They identify the lessons from these programs, including the need:

• To involve the community actively in program development.

• For training in nutrition at all levels, from doctor to village health worker.

• For strong growth monitoring and nutrition education components.

• For close supervision, including regular supervisory visits to villages and health huts, discussions with clients, and observations.

• For a variety of institutional and financing mechanisms.

Africa's nutrition problems require many of the same services as problems elsewhere — growth monitoring, nutrition education, targeted feeding, and food fortification. Africa shares the universal need for good training, management, communications, and information systems.

But new and innovative institutional mechanisms are needed to address Africa's nutrition problems. Each country must look for its own institutional strengths and weaknesses in developing nutrition programs.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger study undertaken by PRE of African health policy. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (30 pages).

724. Fiscal Issues In Adjustment: An Introduction

Riccardo Faini and Jaime de Melo

This summary of the fiscal issues in adjustment in developing countries focuses on the macroeconomics of adjustment (the size of fiscal adjustment, the impact of deficit reductions, and methods for reducing the deficit), fiscal system reforms (spending cuts and tax reform), and new directions for research (the growth effects and the political economy of fiscal policy).

Adjustment to the macroeconomic crises of the eighties was least successful on the fiscal front. Faini and de Melo, in this introduction to a symposium on fiscal issues in adjustment, summarize the issues raised by papers in the symposium.

Those papers deal with various aspects of the fiscal crisis that many developing countries faced in the eighties. After a brief introduction on the magnitude of the crisis, Faini and de Melo summarize issues discussed in three areas.

On the macroeconomics of adjustment, they discuss the size of fiscal adjustment, the impact of deficit reductions, and the methods of reducing the deficit. On fiscal system reform, they survey reforms occasioned by the fiscal crisis: choice of spending cuts and reform of the tax system. They close with a discussion of new directions for research: the growth effects of fiscal policy and the political economy of fiscal policy.

This paper — a product of the Trade Policy Division, Country Economics De-

partment — is part of a larger effort in PRE to study the sustainability of adjustment (RPO 675-32). This paper appeared in a symposium, *Fiscal Issues in Adjustment in Developing Countries,* published by *Richerche Economiche,* vol. 14, 1990. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Dawn Ballantyne, room N10-019, extension 37947 (26 pages).

725. How Structure of Production Determines the Demand for Human Capital

Indermit S. Gill and Shahidur R. Khandker

To promote gender equity, expansion of the services sector should be encouraged. But this runs counter to the World Bank and IMF policy of encouraging the production of tradable goods (produced mainly in agriculture and less so in industry) to service debt. So direct government intervention is needed to promote investment in women's human capital.

Explanations of lower investments in female schooling and health than in male assume that demand for these components of human capital somehow exists — and they concentrate on the supply of human capital by the household.

Gill and Khandker try to remedy the neglect of demand-side factors by examining exogenous dimensions of development. They include the structure of production — represented by the shares of agriculture, services, and industry in national employment or income — as an identifying variable for the demand for human capital.

Their reasoning is that the production functions of these three sectors differ in their requirements for skills. Industry and services require more educated workers than agriculture does — and industry requires more full-time educated workers than services does.

The authors assume that women have a comparative advantage over men in the home sector, so women spend more time at home. But industry favors males over females more than the services sector does. If the importance of industry increases at the expense of agriculture, the demand for schooling will increase for both men and women, but especially for men. Increases in the importance of services will similarly increase the demand for schooling more for women than for men.

If health is equally valued by all sectors, but health and schooling are complementary inputs to production, changes in production that encourage more schooling for men (or women) will also encourage more investments in health for men (or women).

Gill and Khandker test these propositions using primary and secondary school enrollment ratios and life expectancy levels (as proxies for investments and schooling and health) for about 90 countries in 1965 and 1987. The data for 1965 appear to be broadly supportive of the propositions; data for 1987 support them only weakly.

The empirical analysis cannot determine whether changes in the economic structure cause increases in the demand for education, or whether improved education facilitates a largely exogenous transition from an agrarian to an industrial/service economy. If issues of causality are resolved in favor of the views Gill and Khandker express in this paper, interesting policy implications emerge.

Most important, expansion of the services sector would greatly help reduce gender inequity at the same time as fostering growth.

This finding highlights the problem with relying purely on economic growth to reduce the gender gap in human capital. If income growth is accompanied by structural transformation of an economy from agrarian to industrial and then to domination by the services sector, there is no assurance that the economic status of women will improve in the early stages of this transformation.

Because the human capital of women has significant externalities — that is, because social returns to women's education and health are higher than private returns — the case is strong for direct government intervention in investments in women's human capital.

This paper — a product of the Women in Development Division, Population and Human Resources Department — is part of a larger effort in PRE to determine if and how women's productivity (and thus family welfare) are improved when women are given more access to education, training, credit, health care, and other public resources. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Audrey Sloan, room S9-121, extension 35108 (43 pages, with tables).

726. Perspectives on the Design of Intergovernmental Fiscal Relations

Anwar Shah

Practical guidelines on fine-tuning the structure of transfers between federal, state, and local governments — without reassigning spending and taxing responsibilities.

The literature on fiscal federalism provides much useful guidance in the design of intergovernmental fiscal relations. But few developing countries have paid serious attention to this guidance in designing their transfers.

Shah provides a framework for assessing intergovernmental fiscal arrangements and develops some blueprints for helping developing nations chart a course for reform. Except for centrally planned economies in transition to market economies, most of these arrangements do not require fully restructuring the economy so much as fine-tuning the existing structure of transfers (without reassigning spending and taxing responsibilities).

Shah observes that assignment problems go from one extreme to the other. In Yugoslavia, for example, decentralization went too far and circumvented the federal government's role of stabilization and redistribution. A conscious effort is needed to restore that federal role. But in most countries the national government's role is too pervasive and intrusive — reaching beyond the important roles of national defense and security to such purely local functions as pothole repair and rat control.

Usually these problems arise not because constitutional assignment conflicts with theory but because de facto assignment conflicts with de jure responsibilities. Often, major reform is possible with administrative orders, so constitutional amendments are not needed.

Problems often arise, for example, from overlapping and uncoordinated administration of certain taxes, especially sales and excise taxes. The solution is often to fine-tune existing assignments rather than redesign the system. One

alternative often ignored is for the higher-level government to determine the tax base and for the lower-level government to levy supplementary (piggyback) rates on the uniform tax base.

Most countries, says Shah, ignore the basic rule of intergovernmental transfers, that grant programs be designed to meet grant objectives.

Almost invariably, developing countries have excessive specific-purpose programs — often the result of pork-barrel politics — for many of which program objectives are vague or unspecified or are decided after funds are released. This increases flexibility and discretionary spending at the cost of transparency, objectivity, and accountability. Some have a perverse economic effect — for example, covering lower-level deficits or salaries, thus discouraging tax efforts at the lower level. Reviewing these programs must be high on agendas for public sector reform.

Federal-local and state-local transfers in most developing countries need restructuring. National governments are not equipped to monitor local use of national funds. Moreover, local jurisdictions are better suited than national to administering to local needs and should be encouraged to raise local taxes to finance them.

Also, local governments are not generally allowed to borrow in credit markets. Autonomous bodies should be set up to supervise and help local borrowing for capital projects.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to reform public sector management in developing countries. It is one of a series of discussion papers prepared for the Intergovernmental Fiscal Relations Project of the Division. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (107 pages).

727. The Effects of Debt Subsidies on Corporate Investment Behavior

Mansoor Dailami and E. Han Kim

Credit subsidies are ineffective in stimulating business investment in productive assets. Instead, they lead to an increase in corporate holdings of financial assets and real estate.

Dailami and Kim argue that credit subsidies are ineffective in stimulating business investment in productive assets. Instead, they lead to an increase in corporate holdings of financial assets and real estate.

For empirical verification, Dailami and Kim examined investment patterns in a sample of 241 Korean corporations listed on the Korea Stock Exchange between 1984 and 1988. They found a significant positive relation between corporate speculative asset holdings and access to subsidized loans.

Their estimates indicate that without interest rate controls and other forms of subsidy, corporate holdings of speculative assets would have been one-seventh of observed levels. Moreover, most corporate real estate holdings appear to be unrelated to production activities.

They find little evidence that the Korean government's interest rate controls and credit allocation policy have accelerated expansion of corporate investment. If anything, they are partly to blame for the overheated Korean stock market during 1986-88.

This paper — a product of the Country Operations Division, Country Department IV (India), Asia Regional Office — is the second in a planned series of research on the performance of capital markets and their role in providing risk capital to the corporate sector in India and the Republic of Korea. The research is funded by the Bank's Research Committee (RPO 675-84). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Adala Bruce-Konuah, room D10-079, extension 80356 (22 pages, with figures and tables).

728. Does Better Access to Contraceptives Increase their Use? Key Policy and Methodological Issues

Susan Cochrane and Laura Gibney

The only consistently significant results available on whether access to contraceptives increases their use relate to the density of access: the more sources users have access to, the more they seem to use contraceptives. Better data are needed on other measures of access.

Conclusions vary about whether people use contraceptives more when they are more accessible — partly because of differences in case studies and partly because of differences in methodologies and measures of access. Generally analysts conclude that access is important, which is important for policy, since increasing access to contraception is the most direct intervention available for increasing the use of contraceptives.

In Africa, in particular — where fertility began to be reduced only in the last five years — it is important to study the effect on contraceptive use of targeting family planning services to motivated families.

Cochrane and Gibney, in their review of 49 case studies in the literature, found highly inconclusive results on the question of whether a particular measure of access — or methods of estimating those measures — influence findings on the relationship between access to and use of contraception.

Perceived and actual measures of access did not show different effects, and evidence was also inconclusive on whether the choice of independent variables — travel time, distance to source, access to personnel, density of sources, and costs — influences the results.

All the findings about density of outlets were significant. This suggests that access measures that focus on the nearest outlet are less useful than those that measure distance or travel time to a number of outlets.

Cochrane and Gibney emphasize that differences in travel time or distance to an outlet may not be as important an influence on contraceptive use once a population has reached a threshold level of access.

But generally the quality of the data available is poor, partly because data collectors were poorly trained. Moreover, the relationship between measures of access and use may be different from what researchers expect. Rather than the location of family planning outlets influencing the demand for and use of contraceptives, it may be that demand for contraceptives determines the location of outlets.

Analysis of the effects of access must first be based on a coherent theoretical framework. It must also include a richer measurement of the quality of services.

This paper — a product of the Population, Health, and Nutrition Division,

Population and Human Resources Department — is part of a larger effort in PRE to examine the impediments to contraceptive use and fertility decline in different environments. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (30 pages).

729. Is Export Diversification the Best Way to Achieve Export Growth and Stability? A Look at Three African Countries

Ridwan Ali, Jeffrey Alwang, and Paul B. Siegel

Policymakers — concerned with the instability and downward trend in export earnings for Malawi, Tanzania, and Zimbabwe between 1961 and 1987 — tend to propose the remedy of export diversification. But horizontal diversification would have produced lower export earnings and more instability.

Malawi, Tanzania, and Zimbabwe depend heavily on export earnings from a narrow base of agricultural commodities. This dependence increased between 1961-73 and 1974-87, when international prices for those commodities were declining and unstable.

Policymakers — concerned with the instability and downward trend in export earnings for the three countries — tend to equate these trends with the countries' narrow export commodity base. They often propose export diversification as an expedient remedy.

But Ali, Alwang, and Siegel found that horizontal diversification would have produced lower export earnings and more instability. Policymakers introducing horizontal diversification must first consider price forecasts, comparative advantage, the economy's changing structure, and the costs of adjustment. Reactions to historical price movements can produce unexpected, undesirable results.

A shift during this period from favorable to unfavorable price tends, and shifts in the covariances of deviations from price trends, complicate the design of export diversification policies — especially policies aimed at stabilizing export earnings. Generally, although international commodity prices have fallen and instability has increased, the most effective way to achieve growth and stability in export earnings is to increase and stabilize agricultural production and the volume of exports.

Using several measures for horizontal export diversification of commodities in the existing export mix, Ali, Alwang, and Siegel found no clear relationship between the degree of export diversification and export performance in Malawi, Tanzania, and Zimbabwe. Their analysis shows that different export diversification policies can help fulfill different policy goals.

This paper is a product of the Agriculture Operations Division, Southern Africa Department, Africa Regional Office. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Manel Gunasekara, room H5-055, extension 32260 (44 pages).

730. Wage and Employment Policies in Czechoslovakia

Luis A. Riveros

The key short-term measures for reform of the labor market in Czechoslovakia are wage indexation, deregulation of the wage structure, and the facilitation of labor mobility. In the long term, it is important to reform the institutions responsible for setting wages and unemployment compensation plans.

Riveros discusses the short-term and long-term labor market policies Czechoslovakia needs for the economic reform envisaged in the current economic program. The policy implications of his analysis can be extended to other Eastern European countries.

Riveros emphasizes that wage indexation, deregulation of the wage structure, and facilitation of labor mobility are key short-term measures. They increase the prospects for success not only of structural reform but of other macroeconomic policies aimed at controlling inflation.

In the long term, reforming labor market institutions — especially those responsible for setting wages and unemployment compensation plans — must take priority, to ensure that the labor market functions in harmony with the overall market environment.

Riveros further concludes that:

- Unemployment will not cause significant fiscal strain if dismissals of retired employees are made a priority, but there will be more open unemployment that the government expects.
- Unemployment will be a feature of the economy for structural reasons and because of short-term mismatches of skills and the normal fallout from the economic cycle. A scheme integrating government subsidies and an insurance system with participation of both employee and employer could be developed initially.
- The wage indexation system is adequate to drive down inflationary expectations and to stimulate employment adjustments. But there will be practical problems enforcing the wage policy.
- Adequate mechanisms must be established for managing the minimum wage. The price must be used as a signal of economic developments and of the basic price for unskilled labor — and not as an instrument of income distribution.
- As for labor mobility, breaking the link between providing benefits and jobs is fundamental to ensuring more rapid adjustment in job opportunities and encouraging the supply response.

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to assess the role of labor markets in the process of economic adjustment. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Valerie Charles, room S6-228, extension 33651 (24 pages).

731. Efficiency Wage Theory, Labor Markets, and Adjustment

Luis A. Riveros and Lawrence Bouton

Efficiency wage theory suggests that wages (and hence labor markets) may be unresponsive to typical macroeconomic policies that seek to lower real wages, change resource allocation, and reduce open unemployment. Under this theory, firms will react to macroeconomic shocks by altering employment (laying workers off), not wages.

Conventional labor theory argues that wages are determined by the interaction of labor supply and demand — the firm takes the market wage as an exogenous parameter. Under conventional theory,

policy analysis on wage rigidity has emphasized distortions arising from exogenous (union and government) intervention. Thus, one emphasis in adjustment lending has been deregulation of labor markets.

Efficiency wage models of unemployment try to explain persistent real wage rigidities when unemployment persists. Their central assumption is that higher real wages can improve labor productivity. A major implication of these theories is that wages (and hence labor markets) may be unresponsive to typical macroeconomic policies that seek to lower real wages, change resource allocation, and reduce open unemployment. Under this theory, firms will react to macroeconomic shocks by cutting back on jobs, not wages.

The three central macroeconomic implications of efficiency wage theory are these:

• There is an equilibrium "natural" level of open unemployment, which differs among groups in the labor force and cannot be affected by demand management policies. Workers offering services at a lower wage rate are unable to drive the wage down and to expand employment.

• When reducing the level of production — and to the extent that other firms' wages are perceived as given — the typical firm will resort to laying off labor instead of reducing wages, thereby introducing a significant wage inertia and an overshooting of open unemployment. The firm's profit-maximizing wage may exceed the opportunity cost of redundant labor, but lower wages would entail a greater loss associated with the reduction of productivity and the "average quality" of workers than would be gained from reducing per-worker costs.

• Wages do not respond to clear the labor market and are not responsive to macroeconomic policies and microeconomic deregulation.

Riveros and Bouton conclude that applying the theory in developing countries requires suitably defining labor costs and tackling the problem of segmentation of the labor market (into formal and informal markets).

This paper — a joint effort of the Education and Employment Division, Population and Human Resource Department, and the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to identify the role of alternative wage policies in achieving a better supply response to adjustment policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Valerie Charles, room S6-228, extension 33651 (34 pages).

732. Stabilization Programs in Eastern Europe: A Comparative Analysis of the Polish and Yugoslav Programs of 1990

Fabrizio Coricelli and Roberto de Rezende Rocha

Two apparently similar programs launched at roughly the same time by Yugoslavia and Poland yielded significantly different initial results (output fell much more while inflation declined more slowly in Poland than in Yugoslavia).

Coricelli and Rocha compare the implementation of two apparently similar stabilization programs by two reforming socialist countries, launched two weeks apart (December 1989 in Yugoslavia and January 1990 in Poland).

They investigate possible differences underlying the apparently similar programs that may account for the better initial performance of Yugoslavia's program (a sharper reduction of inflation with smaller losses in output).

The authors identify significant differences in initial conditions in the two countries as well as the sequence and degree of some policy measures. These differences may explain the difference in the early results.

They also identify the most important issues the two countries must address in the second stage of reform. These include the unfreezing of nominal variables and resolving the critical structural problems affecting both economies.

Coricelli and Rocha conclude that the microfoundations of socialist and market economies are clearly different. These differences imply that in socialist economies the case for including incomes policy in stabilization programs may be stronger. Different microfoundations also imply that the model of sequencing traditionally applied to Latin American countries — where structural issues are relegated to later stages of the adjustment programs — does not seem to apply to reforming socialist countries, where stabilization and structural reforms are much more closely intertwined.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to analyze the design and the effects of stabilization programs in Central and Eastern Europe. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Rebecca Martin, room N11-077, extension 39065 (67 pages).

733. The Consulting Profession in Developing Countries: A Strategy for Development

Syed S. Kirmani and Warren C. Baum

Governments should emphasize quality over price in evaluating bids, stop favoring public sector firms, and establish better contracting and compensation procedures. There should also be more joint ventures between developed and developing country consulting firms.

The quality of domestic consulting firms in developing countries has not kept pace with their growth in number. Kirmani and Baum recommend a strategy for strengthening domestic consulting.

For developing countries:

• Joint ventures of foreign and local consulting firms should be encouraged to foster technology transfer and training.

• Local consulting should be confined as much as possible to the private sector; public sector consulting firms should be privatized or at least should get no preferential treatment.

• In the award of local contracts, procedures should be changed to give priority to quality in all but simple or routine assignments. Unless governments expect and demand quality performance, and create the environment to make it possible, they will not get it.

• Consultants should be paid on the basis of "man-month contracts," except where the work can be precisely defined in advance and payment methods of "lump sum" or "percentage of construction costs" are acceptable.

• National development banks should provide financial and technical assistance to local firms for training, working capital, and physical facilities and

equipment.

For the World Bank and other donors:

• The Bank should encourage joint ventures, giving them preference in the selection of firms to be short-listed and in the acceptance of the developing country partner as the sponsor or cosponsor in suitable cases.

• Technical assistance loans or credits (usually in small amounts — separately or as part of a larger loan or credit for a related purpose) should be extended to support government programs for developing the profession.

• The Bank should develop a method for quantifying the financial and economic costs of quality defects in projects, particularly at the feasibility and design stages, and reinforce it by selected case studies — to promote an understanding of the importance of the quality of professional work.

• The IFC should play a more active role in financial participation in local consulting firms, and EDI should give the subject more prominence in its curriculum.

• The most important contribution of bilateral donors would be to waive or modify the requirement of tying technical or financial assistance to the use of consultants solely from the donor country.

This paper — a product of the Infrastructure and Urban Development Department — is part of a larger effort in PRE to improve the quality of the consulting profession in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact INUDR, room S10-045, extension 33758 (52 pages).

734. Curricular Content, Educational Expansion, and Economic Growth

Aaron Benavot

Many academicians, politicians, and educators strongly believe that knowledge, organized in school curricula and transmitted through school systems, contributes to the economic strength of nations. How valid is this claim?

Benavot examines whether national variations in curricular content and subject area — as distinct from growth in enrollment or qualitative provisions — have a significant impact on economic development.

The study focuses on primary education in 60 nations and assesses the economic impact of an emphasis on eight different primary level subject areas, with special attention to mathematics and science.

Benavot found that the curricular content of mass education is directly related to national economic growth. This relationship, however, is not consistent across all subject areas and all types of countries.

Countries requiring more hours of elementary science education, for example, generally experienced more rapid increases in their standards of living during the periods from 1960 to 1985. Whether science education at the primary level is the key causal factor and whether the explicit content of the subject area is the key mechanism remain unclear.

The design, reform, and study of national school curricula are increasingly visible in political and scholarly agendas. Conventional wisdom on these matters, however, may cloud rather than clarify a vision of the potential economic benefits of different choices of subjects for curricula.

The economic consequences of emphasizing different subject areas should not be the sole criterion for decisionmaking in designing curricula. However, these consequences can provide one useful element for promoting more informed discussion among such interested parties as parents, school administrators, national and international planners, and educational researchers.

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to examine the effects of primary education on development. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Cynthia Cristobal, room S6-214, extension 33640 (27 pages, with tables).

735. Traditional Medicine in Sub-Saharan Africa: Its Importance and Potential Policy Options

Jocelyn DeJong

Traditional health practitioners in Africa are an important human resource in health care, and there are reasons why ministries of health might want to formulate an overt policy toward traditional medicine. Here are some policy options to consider.

A wide range of traditional healers is active in Africa, but information about their number and activities is scarce. There is growing recognition, however, that traditional practitioners provide accessible care, especially in rural Africa, and that they are a valuable resource which often should be incorporated into a country's health care system.

Survey data indicate that about 20 percent of Africans who seek medical care first consult traditional healers. Patients tend to consult modern health care services for infectious or acute diseases, or those for which modern health care has been shown to be highly effective. But patients tend to consult traditional practitioners for chronic diseases, for diseases related to psychological or social disruption or to reproductive systems, for diseases that are slow to respond to treatment or are caused by organisms that have become resistant to drugs, and for diseases deemed to be "magical" in origin. The prestige and credibility of traditional healers have been waning in the face of modernization and an increasingly educated public, but even so many highly educated people consult traditional practitioners. A survey in Ibadan of two groups — one educated elite, the other a traditional, less privileged group — found that roughly 70 percent of *both* groups used traditional health care, particularly traditional drugs.

Governments have many policy options for traditional medicine. One would be simply to leave traditional health care alone, but that would mean not taking full advantage of the positive contributions traditional health care providers can make and not being able to regulate their activities in the interests of their clients. More active policy options open to governments include encouraging further professionalization through such means as licensing and establishing professional associations, providing them with drugs and training them in better techniques. In Tanzania, for example, the government has developed a program to train local midwives in the delivery of some maternal and child health services in areas with no modern health care. In some instances training programs have reduced

the incidence of neonatal tetanus.

There are several potential areas of cooperation and complementarity between traditional and modern health care workers. The most obvious is working with traditional birth attendants trained as referral agents to provide safe prenatal and postnatal care and to manage uncomplicated deliveries. Another is in the treatment of psychosomatic and psychological illnesses. Traditional practitioners may also have a comparative advantage in counselling patients with terminal illnesses, such as AIDS. Traditional practitioners might be employed as community health workers.

DeJong shows that traditional medicine is an important source of health care for significant numbers of Africans and that traditional healers, particularly those who wield authority within their communities, are an important human resource for health care. Traditional health care is unlikely to disappear, particularly if the quality of and access to modern health care service do not improve significantly. The boundaries between traditional and modern health care practitioners are beginning to blur, with the former adopting many of the practices of the latter. The consequent competition between the two groups will likely necessitate health policies that address the entire spectrum of health care, traditional and modern, and the relationship between them.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger study undertaken by PRE on African health policy. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Otilia Nadora, room S6-063, extension 31091.

736. Wages and Employment in the Transition to a Market Economy

Simon Commander, Fabrizio Coricelli, and Karsten Staehr

Because of the inherited ownership structure and the uncertainties associated with reform, market regimes in reforming socialist economies will continue to need centralized controls over wages in worker-controlled firms (the socialized sector). Unemployment and an expanding private sector alone are unlikely to provide a sufficient restraining mechanism for wages.

Certain inherited features of the socialist economies — socialized ownership, full employment, restricted job mobility, and de facto wage indexation — mean that drastic reform of the labor market must figure prominently in overall economic reform.

The question is how to implement that range of reforms to ensure compatibility. One such tension relates to the fact that governments must demonstrate their commitment to a more passive role in the economy while maintaining direct controls over wages and possibly job decisions.

Commander, Coricelli, and Staehr focus on the implications for wage bargaining and policy of inherited ownership arrangements and rules about wage setting during the transition.

In imposing unemployment on the system, by repudiating the soft budget constraint, the reforming government tries to teach workers and managers that behind it all lies a Phillips curve. But fiscal and political constraints limit the government's tolerance (if not stimulation) of unemployment — so agents may be skeptical about government adherence to announced policy.

Commander, Coricelli, and Staehr discuss the strong tendency toward overemployment and wage drift in socialist systems. They focus on the market-based transitional economy, exemplified by Poland since 1990, setting up a series of models capturing the behavior of worker-controlled firms.

They develop a simple policy game in which government policy is conditioned on output, through a subsidy instrument. This reflects the problem typically faced by reforming governments of whether to enforce a hard budget constraint (and hence tolerate higher unemployment) or whether to resort to subsidies and associated departures from fiscal targets.

Given the commitment to privatization and the consequent uncertainty about future claims on capital, they also develop — in a two-period model — the conditions under which the worker-controlled firms will deplete capital stock, possibly through excessive wage growth. They indicate how an appropriate tax rule — in this case, a wage-per-worker rule — can restrain decapitalization. They also discuss the possible utility of contingent claims on capital — such as vouchers — in offsetting capital depletion promoted by uncertainty about property rights.

Finally, they emphasize the way wage tax rules can affect employment and wages and how critical is their design. A wage bill tax, as used in Poland through 1990, not only reduces employment but will probably raise wages. By contrast, a wage-per-worker tax will tend to raise employment and lower wages. These effects are likely to be reinforced in a two-sector context, where worker-controlled firms and private firms coexist and where relative wage considerations are important.

They conclude that because of the inherited ownership structure and the uncertainty associated with reform, market-based regimes will continue to need centralized controls over wages in worker-controlled firms (the socialized sector). Unemployment and an expanding private sector alone are unlikely to provide a sufficient restraining mechanism for wages.

This paper — a joint product of the National Economic Management Division, Economic Development Institute and the Macroeconomic Adjustment and Growth Division, Country Economics Department — was prepared for a seminar on Central and Eastern Europe: Roads to Growth, sponsored by the Austrian National Bank and the International Monetary Fund, and held in Baden, Austria, April 15-18, 1991. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Olga Del Cid, room M7-047, extension 39050 (38 pages).

737. External Shocks, Adjustment Policies, and Investment: Illustrations from a Forward-looking CGE Model of the Philippines

Delfin S. Go

The rapid increase in investment and external debt of middle-income countries like the Philippines during the 1970s was perfectly "rational" behavior, given existing policies. However, these countries could have done better with an appropriate mix of adjustment policies. The paper highlights the intertemporal tradeoffs of tariff reform, emphasizing the need for comple-

mentary measures to ease macro imbalances and short-term dislocations of the protected sector.

Go developed a model that integrates intertemporal and forward-looking behavior in investment and consumption decisions in a multisectoral general equilibrium framework applicable to developing countries. It formulates and uses an infinite-horizon growth model to examine the adjustment, growth, and debt problems of a middle-income country, which Go illustrates using data for the Philippines.

The simulations illustrate the importance of dynamic, forward-looking behavior in consumption and investment. They show how an import price shock could lead to an investment boom and rapid expansion of foreign debt, as happened in the mid-seventies to many developing countries.

This rapid expansion is hard to explain without investigating the dynamic competitive conditions between domestic and foreign goods over time in response to this shock. The increase in current account deficits and foreign debt after an import price shock, for example, is certainly greater than would be implied by just the increase in foreign prices. Go concludes, among other things, that:

- Expectation is a key factor. Contrary to the common suggestion that an economy should adjust and contract in response to a permanent import price shock, the behavior suggested in a model with rational expectations in investment decisions is that the opposite can be true.

The expectations prevailing in the mid-seventies were that the energy crisis was permanent, the days of cheap oil were over, and petrodollars would continue to be available. But conditions soon changed. The actions of the high-debt developing countries appear "imprudent" viewed from the perspective of the interest rate shock of 1979. The expectation that debts could be stacked indefinitely was clearly wrong and the interest rate shock after 1979 came as a surprise to many.

- The results demonstrate both the promise and danger of liberalization, an adjustment policy often recommended in the 1980s. Tariff reform shows the expected benefits in the primary sector and to some degree in exports. But it may easily lead to a contraction in the protected sector like manufacturing, a decline in tax revenues, more current account deficits, and more debt. Other measures are needed.
- In general, Go finds that a combination of policies is effective in maintaining growth and exports without a rapid accumulation of debts — even during a permanent import price shock. In fact, an import price shock is an attractive occasion for tariff reform, as it eases pressures on domestic prices, prevents exports from declining too much, and does not lead to an expansion of import demand that normally accompanies a tariff reduction.

Combined with other policies, tariff reform could rechannel investment and resources toward the more tradable sectors and exports can be emphasized and increased. If domestic resources are also mobilized through increased tax collection, the combined effect will be to reduce or slow the accumulation of foreign debt.

In other words, middle-income countries like the Philippines missed a golden opportunity for policy reform in the 1970s and found it harder to implement adjustment policies under less favorable circumstances in the 1980s.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to examine open-economy tax reform and adjustment policies in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (48 pages).

738. Tax Competition and Tax Coordination: When Countries Differ in Size

Ravi Kanbur and Michael Keen

Differences in country size exacerbate the inefficiency of tax competition, harming both a smaller country and a larger one. But different forms of tax cooperation can have very different effects. The smaller country would lose from harmonizing tax rates, but both would gain from imposing a minimum tax. The optimal joint response to freer cross-border trade, however, may be to do absolutely nothing.

Which kinds of countries choose to become tax havens? What is the likely pattern of taxation in a border-free "Europe 1992" if there is no central coordination of tax rates? Are there simple forms of coordination from which all member states could expect to benefit? Is harmonizing tax rates desirable? Would the United States be wise to insist on a minimum tax requirement on key economic activities in moving to free trade with Mexico? Or is it Mexico that should seek such a condition? If two countries make it easier for goods to move between them, how should they adjust their domestic tax structures?

These and other policy questions reflect the increasing strain that the internationalization of economic activity is placing on existing national tax structures designed for a less integrated world.

Kanbur and Keen use a simple two-country model to address a range of policy concerns that arise as a result, focusing on the role of national size. Disparity in size between countries is a source of inefficiency in itself, exacerbating the loss that each country suffers as a consequence of noncooperative tax behavior.

The impact of alternative forms of tax cooperation is analyzed. The smaller country would lose from harmonizing tax rates but both countries would gain from imposing a minimum tax.

The optimal joint response to freer cross-border trade, however, may be to do absolutely nothing.

This paper — a product of the Research Advisory Staff, Office of the Vice President, Development Economics — is part of a larger effort in PRE to understand the policy implications of economic integration. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Jane Sweeney, room S3-026, extension 31021 (38 pages, with figures).

739. Managing Financial Risks in Papua New Guinea: An Optimal External Debt Portfolio

Jonathan R. Coleman and Ying Qian

Commodity-linked bonds issued with payments linked to the prices of oil and cocoa could significantly improve Papua New Guinea's risk management.

Papua New Guinea is vulnerable to instability and uncertainty associated with fluctuating commodity prices. This is because its GDP, export earnings, and government revenues depend largely on sales

of a small set of primary commodities whose prices fluctuate substantially on the international market. Papua New Guinea is also exposed to fluctuating exchange rates. The degree of exposure depends heavily on (1) how the currency composition of net export earnings match the currency composition of net liabilities and (2) how changes in commodity prices affect exchange rates.

Based on these criteria, Coleman and Qian show that Papua New Guinea's assets and liabilities may be poorly balanced for debt servicing. Thus, it could benefit substantially from active risk management, especially through better selection of the financial instruments in its debt portfolio.

Coleman and Qian present a model and estimate of an optimal debt portfolio that allows for the use of commodity-linked bonds and conventional debt denominated in different currencies. They judge the hedging effectiveness of this portfolio by how much the variance of expected real imports is reduced.

The results indicate that commodity-linked bonds could play an important role in Papua New Guinea's risk management strategy. The proportion of commodity-linked bonds in the optimal debt portfolio ranges from 20 percent to 45 percent for real interest rates of 8 percent to 1 percent. They show that commodity bonds issued with payments linked to the prices of oil and cocoa could substantially lower the variability of expected future imports.

Their results also show that Papua New Guinea's external debt structure is not well balanced to hedge the foreign exchange risk from the existing composition of non-U.S. dollar-denominated liabilities. The debt portfolio contains an excess of Japanese yen- and Deutschemark-denominated liabilities, while liabilities denominated in British pounds are substantially underrepresented.

This paper — a product of the International Trade Division, International Economics Department — is part of PRE's research on the use by developing countries of financial instruments linked to commodity prices. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Julie Carroll, room S7-069, extension 33715 (30 pages, with tables).

740. The Onchocerciasis Control Program in West Africa: A Long-term Commitment to Success

Bernard H. Liese, John Wilson, Bruce Benton, and Douglas Marr

Among African health programs, this program to control "riverblindness" is an exceptional recent success story. Here are some lessons from it.

Onchocerciasis is a devastating African parasitical disease that causes severe debilitation and intense itching. By the time its victims are in their late twenties, they experience impaired vision, often blindness. River villages are particularly afflicted because the blackflies which transmit the worm parasite that causes the disease breed in rivers — hence the colloquial "riverblindness."

The connection between life by the river and blinding onchocerciasis led to the virtual abandonment of many fertile river valleys, so potentially productive lands lay idle for many years. Yet millions continued to succumb to the disease until the onchocerciasis control program, a large multidonor-supported effort initiated in 1973 at the instigation of Robert McNamara, then head of the World Bank.

Today, 95 percent of the original seven-country area is virtually free of the disease, and previously deserted lands are being resettled and cultivated, increasing agricultural production.

From the beginning, the program maintained a limited, specific objective: to control onchocerciasis in a clearly delineated area in the savannah zones of West Africa. The operational focus was to interrupt transmission of the disease and eventually eliminate the parasite in all the human population. The only acceptable approach was effective control of the disease-transmitting blackfly. The strategy was to focus on destroying blackfly larvae located in fast-flowing rivers, which could easily be targeted with aerial spraying.

The main challenges of the program have been to combat the reinvasion of controlled areas by blackflies, to manage multiple resistance to the larvicides that were used, avoiding any negative impact on the environment, to develop a drug that would kill the parasites, and to hand control of residual responsibilities over to the beneficiary countries once the program ends.

Liese and his colleagues identify the main reasons for the program's success as:

- Limited, achievable, clearly defined objectives and a realistic 20-year timeframe. The request for a 20-year commitment did not meet with potential donors' immediate approval, but the proponents of the program remained firm in their assessment that this much time was necessary to eliminate the parasite reservoir in the human population.
- Use of the best technology available for any task.
- Contracting out highly specialized tasks such as aerial spraying.
- Operational research (considered an equal partner in program implementation).
- Program autonomy, which allowed flexibility in responding to strategic and technological issues.
- Delegation of authority to those most closely involved in the program, thus assuring a clear focus and flexibility.
- Long-range planning to sustain donor commitment.
- Transparency, made possible by a comprehensive flow of information and the program's openness to evaluation and review.

This paper — a joint product of the Population, Health, and Nutrition Division, Population, Health, and Human Resources Department and the Health Services Department — is part of a larger study undertaken in PRE of African Health Policy. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (14 pages).

741. When Does Rent-Seeking Augment the Benefits of Price and Trade Reform on Rationed Commodities? Estimates for Automobiles and Color Televisions in Poland

David Tarr

Price controls result in rents and in rent-seeking. Where the rent-seeking dissipates the rents, the costs of the price controls are magnified enormously above the traditional resource misallocation costs. But there are cases where rent-seeking does not dissipate the rents.

In January 1990, Poland embarked on a "Big Bang" approach to economic reform that in addition to macroeconomic reform decontrolled virtually all prices and devalued the Polish zloty. These two reforms eliminated virtually overnight massive excess demand for many Polish commodities and allowed the authorities to make the zloty internally convertible.

To assess the impact of these reforms on the Polish market for autos and color televisions, Tarr develops a differentiated product model, in which consumers maximize utility and firms maximize profits subject to rationing constraints and price controls.

Color televisions were rationed by queueing. Tarr finds that wasteful rent dissipation in color televisions exactly offset the rents because queues formed that dissipated the rents. Rent dissipation was roughly 10 times the traditional triangle of Harberger resource misallocation costs — so the benefit of price decontrol which eliminated both rent dissipation and resource misallocation was a substantial 0.46 percent of gross domestic product.

With autos, however, rationing was by two methods, which Tarr assesses as not significantly increasing the social costs of the price controls above the Harberger costs. One method was waiting lists. The other, allocation to preferred individuals, wasted some resources through classically rent-seeking or directly unproductive profit-seeking (DUP) activities. But it also had the socially beneficial effects of improving efficiency in other state-owned firms. (In some firms, the autos were awarded to the most productive coal miners or factory workers — which improved productivity in government factories where lack of effort had been a problem.)

Tarr also shows that import liberalization produces greater benefits when there are domestic price controls with rent dissipation, because import liberalization reduces the rent.

All things being equal, the elimination of price controls for both autos and televisions had the effect of decreasing imports, as more domestic autos were produced and sold. The implication is that—contrary to the Polish government's intention — price controls were a trade distortion that increased imports: that is, they implicitly subsidized imports. Tarr estimates the rate of subsidy of imports (the ad valorem rate of subsidy to imports that would increase imports to the level before price controls were eliminated) to be 43 percent for autos and 22 percent for color TVs.

This paper is a joint product of the Trade Policy Division, Country Economics Department and the Trade, Finance, and Public Sector Division, Technical Department, Europe, Middle East, and North Africa Regional Office. It is part of a larger Bank effort to assess the impact of price and trade reform on the reforming socialist economies of Eastern and Central Europe. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Dawn Ballantyne, room N10-033, extension 37947 (52 pages).

742. The Cost of the District Hospital: A Case Study from Malawi

A. J. Mills

Hospitals in Malawi absorb most of recurrent district health expenditures, and district hospital expenditures for drugs and medical supplies are of the same magnitude as that for personnel. Except for drugs and food, there is little scope for major savings in Malawi's hospital operating costs, unless the inflow of patients can be reduced.

Mills analyzes the cost to the Ministry of Health of providing district health services in Malawi, with an emphasis on the cost of the district hospital. She reaches several conclusions:

- Except for drugs and food, there seems to be little scope for major savings in hospital operations costs, unless influences could be brought to bear to reduce the flow of patients to the hospital. In general the hospitals were well (often over-) used and lengths of stay were already relatively short by international standards. Only one or two members of the hospital staff were obviously underoccupied and could be reallocated to other duties.
- To increase the hospital's role in districtwide activities, efforts should probably be made to increase staff motivation to work outside the hospital, to provide vehicles (such as motorbikes) that are not suitable for patient transport, and to introduce incentives to keep those vehicles in working order.
- Detailed costing of hospital activities is feasible in a low-income country like Malawi. Mills's costing methodology could be used in other studies.

Mills's analysis provides firm evidence to assess district resource allocation patterns, by carefully disaggregating district costs by level of care and department. Mills focuses on average costs and the distribution of cost by input category, cost center, and direct service department.

A strikingly low proportion of district recurrent costs was absorbed by salaries and wages: between 27 percent and 39 percent, depending on the district.

A surprisingly high proportion was absorbed by drugs and medical stores: between 24 percent and 37 percent.

The hospital's largest cost center — in terms of resources it controlled — was the pharmacy.

Between 27 percent and 39 percent of total recurrent costs were spent outside the hospital, and a corresponding 61 percent to 73 percent were spent on district hospital services. The hospital's secondary care services alone absorbed 40 percent to 58 percent of district recurrent costs.

Average costs by hospital department showed considerable variation by district, with one hospital being consistently the most expensive and another the cheapest. Between three and ten new outpatients could be treated for the average cost of one inpatient day, and between 34 and 55 for the average cost of an inpatient.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to analyze the costs and financing of hospitals in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (36 pages, with tables).

743. Antidumping Enforcement in the European Community

Angelika Eymann and Ludger Schuknecht

Antidumping measures affecting developing countries are concentrated in industries with shifting comparative advantage

—in sectors with strong, politically influential interest groups. So in following an export-oriented trade strategy, developing countries should probably concentrate on sectors that have weak political influence in developed countries.

In the European Community (EC), as in the United States, "injury" is what antidumping is all about. Antidumping laws are a flexible tool for preventing imports from displacing domestic production in politically influential industries.

The vehicle for achieving that goal in the EC, however, is not protectionist rules, as in the United States, but protectionist discretion.

The empirical results of Eymann's and Schuknecht's study have implications for EC trade policy after 1992. If protectionist interests demand compensation for the abolition of national protectionist barriers after 1992, EC antidumping measures offer them considerable scope for achieving their goals since measures are largely determined by political discretion. Antidumping measures could therefore become a pinnacle of "Fortress Europe."

The results also suggest certain strategic considerations for the trade policy of developing countries. Eymann and Schuknecht argue that antidumping measures affecting developing countries are concentrated in industries with shifting comparative advantage, such as steel products, basic chemicals, and synthetic fibers. (Among the newly industrialized countries, high-tech firms are a frequent target of dumping investigations.) And such protection is more likely in sectors with strong, politically influential interest groups.

If that is indeed the case, it is not sufficient that developing countries simply follow an export-oriented trade strategy. They also need to concentrate on sectors that have weak political influence in developed countries.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the economics of the emergence of "fairness" as a standard for regulating international trade, its implications for the continued openness of the international trading system, and its continued function as an important vehicle for development. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Nellie Artis, room N10-013, extension 37947 (27 pages, with tables).

744. Stainless Steel in Sweden: Antidumping Attacks Good International Citizenship

Gunnar Fors

Swedish stainless steel has played by the rules — private ownership, competitive pricing, government support strictly within the GATT rules, and the OECD guidelines. But when Sweden refused to "voluntarily" restrict its exports, it was severely set upon through antidumping actions.

Fors argues that good economics, international competitiveness, private ownership, and limited support from a government demonstrating good international citizenship are not enough to defend an industry against the application of antidumping or other import-restricting policy.

The Swedish stainless steel industry responded to the world crisis in the steel market in the 1970s with major industrial restructuring. By wholeheartedly applying the principle of profitability to decisionmaking, the industry transformed itself into a healthy, internationally competitive industry. Today the two remaining stainless steel firms in Sweden are among the world leaders in their fields and are the world's largest producers of some stainless steel products.

During this transformation, stainless steel firms also learned to get along without government intervention. After 1982, the government's policy toward the industry changed. The government ended all direct support to the industry in 1982 and by the end of 1987 stainless steel firms had paid back all of their structural delegation loans dating from the late 1970s. In addition, the Swedish government — in complying with OECD criteria guiding national steel policy — demonstrated better international citizenship than either the United states or the European Community. The negative findings of the U.S. countervailing duty and section 301 cases against Sweden offered further support that the Swedish government's role in the stainless steel industry was clearly within the bounds of the international understanding of what that role should be.

Producers in the United States, meanwhile, were shopping around for ways to restrict imports of Swedish stainless steel products. They actively sought protection under every available provision of U.S. trade laws. Efforts under section 301 and countervailing duty laws failed, but their claims under section 201 resulted in the imposition of quotas and additional tariffs covering most stainless steel products for over ten years. Those under antidumping provisions resulted in the imposition of duties that are still in effect for stainless steel plate (Avesta), welded tubes (Avesta-Sandvik Tube), and seamless tubes (Sandvik Steel). This extensive use of trade remedy cases against Swedish stainless steel is not an aberration but rather an illustration of how the system generally works.

On the Sandvik steel antidumping case, Sweden complained to the GATT, which established an antidumping panel to investigate the case. The panel's recommendation that the antidumping order be lifted was based not on a consideration of the broad issue of whose position was right from a rational economic or business perspective, but on a procedural detail. Just as "dumping" is whatever a domestic industry can get its government to act against under antidumping law, concludes Fors, so "not dumping" is whatever a GATT panel cites as grounds to discredit an antidumping order.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the economics of the emergence of "fairness" as a standard for regulating international trade, its implications for the continued openness of the international trading system, and its continued functioning as an important vehicle for development. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Nellie Artis, room N10-013, extension 37947 (43 pages, including tables).

745. The Meaning of "Unfair" in U.S. Import Policy

J. Michael Finger

Protection for U.S. production beset by import competition is what the antidumping and countervailing duty laws are all about. All the emphasis on

doing things the right way distracts the United States from seeing that it is doing the wrong thing. The focus of trade regulation should be the following question: Who in the domestic economy will benefit from the proposed restriction and who in the domestic economy will lose, and by how much?

Protection for U.S. production beset by import competition is what the antidumping and countervailing duty laws are all about, contends Finger. Only in rhetoric are the unfair trade procedures about what foreign sellers are doing and about whether what they are doing is fair or unfair. The legal definitions of what is unfair offer so many possibilities that any U.S. producer who would be better off if imports were restricted can find a way to qualify — if not now, then after the next trade bill.

This does not mean that *any* briefcase full of information from a U.S. industry will be sufficient to win an affirmative determination, Finger argues. But a domestic interest stopped by a detail of the law need only wait (or pay) for preparation of a new petition, or revision of the administrative regulation, or amendment of the law — as did the Louisiana sulfur company whose problem was fixed by adding constructed value to the law.

In the long run, a winning portfolio *can* be pulled together by any industry that experiences substantive competition from imports. The cost of putting that portfolio together and the tedium of negotiating a voluntary export restraint that will give the exporters enough extra profits to buy off their sovereign right to retaliate are the major limits on how much protection the system will provide. Domestic politics imposes only the necessity of explaining that foreigners are unfair, while the trade laws themselves provide the podium from which to do so.

Almost all the procedural changes (not the substantive changes) that have been made are commendable. Standards are stated with increased precision, objective application is guarded by court review, and interested parties have a right to review the evidence and to comment on its interpretation as well as its accuracy. Transparency, openness, and objectivity are important parts of the American ideal of rule of law. Yet these procedural refinements seem to contribute more to the problem than to a solution. All the emphasis on doing things the right way distracts us from seeing that we are doing the wrong thing. The unfair trade laws (with their broad definitions of what is unfair) provide traditional American justice: we give every horse thief a fair trial, and then we hang him, writes Finger.

The focus of trade regulation should be the following question: Who in the domestic economy will benefit from the proposed restriction and who in the domestic economy will lose, and by how much? Then, get the economics right. The domestic economic costs of a trade-restricting action are as substantive as the gains. These costs have never been given legal substance because the legal profession has never been charged to do so, not because it cannot be done.

A domestic loss and a domestic loser from an impediment to imports should have the same standing in law and in administrative procedures as a gain or a gainer — including the administrative mechanics to petition for removal of an impediment to imports when that impediment compromises his or her economic interests. This is hardly a new notion. The idea that there are gains from trade, usually greater than the costs, has been around since Adam Smith, Finger concludes. It is just that they have never been made legal in the United States.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the economics of the emergence of "fairness" as a standard for regulating international trade, its implications for the continued openness of the international trading system, and its continued function as an important vehicle for development. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Nellie Artis, room N10-013, extension 37947 (29 pages).

746. The Impact of Regulation on Financial Intermediation

Dimitri Vittas

Financial systems are subject to extensive regulation in both developed and developing countries. The challenge for policymakers is to create a robust regulatory framework that promotes stability and efficiency and avoids the need for costly interventions.

Financial regulation has a pervasive impact on the structure and efficiency of financial intermediation. It is perhaps the most important determinant of differences exhibited by countries at a similar level of economic development and with access to common technologies.

The 1980s witnessed extensive deregulation and reregulation. Understanding the rationale for removing some regulations and introducing others is essential for designing and implementing effective regulatory reform.

Vittas classifies financial regulations by their primary objective into six types: macroeconomic, allocative, structural, prudential, organizational, and protective. He notes that most regulations have effects that cut across different objectives.

Historical experience suggests that macroeconomic and allocative controls tend to be ineffective and inefficient. It also shows that prudential, organizational, and protective controls are necessary because financial systems (1) suffer from moral hazard, adverse selection, and the free rider problem; (2) are susceptible to imprudent and fraudulent behavior; and (3) are prone to instability and crisis.

Vittas argues that structural controls are the most controversial types of financial regulation. Such controls are often motivated by political considerations, such as preserving the monopoly position of domestic banks or protecting the turfs of different types of financial institutions.

He maintains that many of the problems facing the U.S. financial system, such as the fragmented and fragile banking system, the financial crisis of the thrift industry, and the segmented banking and nonbanking parts of the financial system, can be attributed to the adverse effects of structural regulations.

Historical experience also suggests that regulatory reform can take place more easily if it can be accomplished without cumbersome legislative changes. In fact, the threat of regulation, if prompt action is feasible, may be as effective as actual regulation.

Vittas argues that the most important task facing policymakers is creating a sound and robust financial constitution that governs what financial institutions are permitted to do and what basic conditions they have to meet. But, he adds, the

financial constitution needs to be, as far as possible, neutral between different types of financial intermediaries and markets. Such a framework would contribute to higher efficiency and stability in the first place and would thus avoid the cost of later interventions.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in PRE to study the impact of regulation in the financial sector. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Wilai Pitayatonakarn, room N9-003, extension 37666 (25 pages).

747. Credit Policies in Japan and Korea: A Review of the Literature

Dimitri Vittas and Bo Wang

Well-functioning bureaucracies, effective monitoring, and a high degree of financial discipline have contributed to the effectiveness of credit polities in Japan and Korea. But the two countries' credit policies are not without their critics.

Japan and Korea have long been associated with extensive, generally successful government intervention in the financial system. But their credit policies have not gone uncriticized. Vittas and Wang survey the literature available in English on the operation and effectiveness of credit policies in these two countries. They divide the literature on the Japanese experience into three groups.

Papers in the first group argue that government intervention facilitated the financing of industry and promoted rapid industrialization during the period of reconstruction and high growth. These papers emphasize the role of indirect finance, the "overloan" position of the large city banks (their reliance on credits from the Bank of Japan for funding their loans to industrial corporations); the "overborrowing" or high leverage of industrial companies; and the artificially low level of interest rates.

The second group includes papers that accept that government intervention influenced financial flows, but maintain that its impact was not as great as the first group implied. Some papers deny that government maintained artificially low interest rates. Others argue that access to funds and the cowbell effect were far more important than credit subsidies. Most papers in this group also argue that private financial institutions played a leading part in financing the growing or modern sectors of industry and that most government support was directed toward declining and stagnant industries.

The third group of papers attributes a negative effect to government policy and maintains that economic growth would have been even higher if the financial markets were not subject to extensive regulation. Several papers argue that Japan's industrial adjustment process was slower and probably much costlier in social terms as a result of the Ministry of International Trade and Industry's (MITI) intervention; they challenge the view that Japan's high growth and successful industrialization were masterminded by MITI.

In the literature on the effectiveness of credit and industrial policy in Korea, very few authors, if any, challenge the view that government intervention was extensive in Korea. Indeed, many authors argue that government intervention may have retarded growth by distorting incentives and resource allocation.

An important feature of credit policy in Korea was the coercive nature of government intervention. Firms that failed to meet performance standards and expand exports were denied additional credit or had their loans recalled, while successful firms were given further access to credit on preferential terms. Interest rate subsidies in Korea, unlike Japan, were sometimes quite large.

Criticism of Korean credit policy focuses on the experience in the late 1970s when the drive for heavy industrialization was under way. Several papers argue that the drive was overambitious and costly and resulted in a serious misallocation of resources, although many of the targets were in fact achieved.

In general the relative success of credit policies in Japan and Korea is attributed to their well-functioning bureaucracies, effective monitoring, and financial discipline. These have limited the diversion of subsidized credit funds into speculative assets and have ensured that credit policies in these two countries have not suffered from the problems of adverse selection and moral hazard that have bedeviled directed credit programs and credit subsidies in other countries.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in PRE to study the impact of regulation in the financial sector. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Wilai Pitayatonakarn, room N9-003, extension 37666 (25 pages).

748. European Trade Patterns After the Transition

Oleh Havrylyshyn and Lant Pritchett

A gravity model of trade predicts that trade with Northern Europe will increase from less than 25 percent to more than 70 percent of Eastern Europe's trade.

Eastern Europe's shift away from socialism and an orientation toward the USSR is likely to cause large changes in its bilateral pattern of trade — away from the Eastern bloc toward the Western.

Havrylyshyn and Pritchett quantify the expected magnitude of this shift by estimating a traditional gravity model of trade and using it to simulate post-transition patterns of trade.

In the base case — in which the total value of Eastern European trade is held constant at US$113 billion — Eastern European trade with Northern Europe increases by $53 billion.

Northern Europe's share in Eastern Europe's trade increases to more than 70 percent, from the current level of less than one quarter.

The basic tenor of these results is robust to changes in the model's estimated coefficients and the measurement of income in Eastern Europe and the USSR.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to examine questions relating to the transition from a socialist to a market economy. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Nen Castillo, room N10-033, extension 37947 (29 pages, with tables).

749. Hedging Commodity Price Risks in Papua New Guinea

Stijn Claessens and Jonathan Coleman

With increasing awareness of commodity price risks and with technical assistance — strategic advice and assistance in institution building and skills training — developing countries such as Papua New Guinea can learn to use market-based commodity-linked financial instruments to improve their economic management.

Papua New Guinea faces substantial exposure to price fluctuations for its major primary commodity exports: gold, copper, coffee, cocoa, logs, and palm oil. Its existing commodity risk management schemes — its mineral stabilization fund and agricultural commodity funds — are costly, provide only limited protection against the impact of fluctuations in commodity prices, and are unable to provide protection for long periods.

Claessens and Coleman show that market-based financial instruments are better suited to manage external price risk for a country that is a price taker in world commodity markets. This is especially the case for mineral and energy price risks where financial instruments (such as commodity swaps) exist for hedging export earnings over long periods. For agricultural export earnings, short-term hedging tools, such as options and futures, could be used effectively. Claessens and Coleman design specific financial strategies that Papua New Guinea could use, and demonstrate the gains to be made from active risk management.

The lessons learned are not unique. Many developing countries are heavily dependent on primary commodities for foreign exchange, and their economic development has suffered from the resulting risks and instabilities. With increasing awareness of these risks and with technical assistance — strategic advice and assistance in institution building and skills training — developing countries can learn to use financial instruments to improve their economic management.

This paper — a joint product of the Debt and International Finance and International Trade Divisions, International Economics Department — is part of a larger effort in PRE to study the use of financial instruments to manage the external exposures of developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sarah Lipscomb, room S7-062, extension 33718 (31 pages, with figures and tables).

750. Reforming and Privatizing Poland's Road Freight Industry

Esra Bennathan, Jeffrey Gutman, and Louis Thompson

Options for restructuring and privatizing PKS, Poland's main state-owned enterprise for road transport of passengers and general freight.

The Polish economy uses four to six times as much freight transport per dollar of GDP as the European market economies. The trucking share of this transport, however, appears far too low. Bennathan, Gutman, and Thompson focus on options important to the privatization of road haulage in Poland. They recommend that in restructuring Poland's road haulage industry the following options be considered in connection with privatization, regulation, financing, and taxation:

- The business of passenger transport (buses) should be completely separated from the business of freight haulage (trucks). Combining freight haulage with subsidized passenger transport in one enterprise, the common practice now, creates the possibility that passenger activities could subsidize freight (or vice versa). And combining activities with such different markets, operating techniques, and management style is inefficient.
- Road haulage is a large enough industry and occupation in Poland to justify a separate privatization program — but one that covers the entire industry.
- Poland's program of small- and medium-scale privatization has earmarked a number of road haulage enterprises for privatization. To these, the road haulage sector privatization program should add at least 10 (or 8 percent of all) state-owned haulage entities for assisted privatization in the first year of the program. Assistance should be in the form of guidance on accounting, auditing, valuation, and legal steps toward commercialization.
- To guard against the dissipation of state assets and to rationalize and reform accounting and information management systems industrywide, all enterprises should be commercialized under central guidance and with expert assistance, according to a preannounced timetable.
- To encourage the infusion of new resources from outside, uncertainty about the ownership, assets, liabilities, and cash flow of enterprises should be reduced — partly by creating new, self-contained subsidiaries (daughter companies) of state-owned enterprises. This typically creates incentives for improved management and staff efficiency and productivity. To limit potential abuse, strict rules and mechanisms for inspection should be set up.
- Small-scale haulage enterprises should be encouraged, as trucking firms do not benefit significantly from economies of scale, middle-class entrepreneurship is socially desirable, and, through subcontracting, large-scale firms can vary their capacity without committing capital.
- The trend should be toward economic deregulation. Regulations should set quality standards (issuing operator licenses on the basis of personal and technical competence, for example) rather than restricting quantity (limiting entry of new haulage enterprises). No organization should be given preference in the distribution of international permits, which might be issued by auction or by spot basis to applicants upon proof of a genuine order for transport.
- Private liquidity in Poland is low and commercial banks cannot yet grant credit widely. There is a case for exploring sources of technical assistance and leasing finance from West European leasing associations and European banks.
- Enterprise taxation and taxation of road use need reform. Road user taxes should be based on the relative cost of damage to roads by different equipment — with heavy vehicles paying a higher tax than light vehicles, for example — and on the cost of congestion.

This paper — a product of the Transport Division, Infrastructure and Urban Development Department — is part of a larger effort in PRE to develop improved approaches to enterprise reform in transport. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Barbara Gregory, room S10-045, extension 33744 (41 pages, with figures and tables).

751. A Consumption-Based Direct Tax for Countries in Transition from Socialism

Charles E. McLure, Jr.

Countries emerging from socialism lack the accounting practices, the tax administration, and the experience with tax compliance to make an income tax work. A consumption-based direct tax — the simplified alternative tax proposed here — might be more effective.

Countries emerging from socialism must move quickly to implement tax systems that will allow them to finance the proper functions of government in a noninflationary way. Yet they are ill-prepared to cope with the intricacies of a standard income tax. They lack the accounting practices, the tax administration, and the experience with tax compliance to make an income tax work well. It is important to design tax policy with these limitations in mind, rather than simply ignoring them during the (possibly long) period when they remain significant impediments.

Indeed, administrative considerations should weigh almost as heavily as economic effects in the choice of a tax system for a country emerging from socialism.

McLure suggests an alternative to the income tax: the simplified alternative tax, a consumption-based direct tax. The simplified alternative tax encourages savings and investment in a way that is economically neutral and avoids many of the administrative problems of an income tax — especially those stemming from timing issues and the need to adjust for inflation.

The simplified alternative tax is not a panacea, but McLure suggests that it deserves serious consideration.

This paper — a product of the Socialist Economies Reform Unit, Country Economics Department — is part of a larger effort in PRE to study the processes of reform in countries emerging from socialism. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact CECSE, room N6-035, extension 37188 (44 pages).

752. Inflation and Stabilization in Yugoslavia

Roberto de Rezende Rocha

A successful stabilization program in Yugoslavia requires more political resolve about wage indiscipline and loss-making enterprises than was observed in 1990. But the ultimate question is whether stabilization can succeed without a comprehensive privatization program.

Rocha examines the main reasons inflation accelerated in Yugoslavia in the 1980s and reviews past and current attempts at stabilization.

He shows that inflation in Yugoslavia shares common elements with inflation in other highly indebted countries, despite appearances otherwise. These common elements include a large transfer of resources abroad unmatched by an internal adjustment, resulting in a large internal redistribution of real resources through inflation.

Yugoslavia differs from other countries in that these internal conditions are not transparent. Instead of an open fiscal deficit, there were complex interactions among enterprises, commercial banks, and the central bank, involving, among other things, the absorption and servicing of a large stock of foreign exchange liabilities by the central bank.

Other factors contributed to the sharp acceleration of inflation at the end of the eighties — especially a large real devaluation in mid-1988, when an indexed economy drove inflation to a much higher level. In 1989, a preemptive explosion of real wages added fuel to inflation's fire.

Rocha argues that the failure to correct hidden losses in the economy was the main reason various stabilization attempts failed in the 1980s. The 1990 program was the first to recognize the existence of those hidden losses and the need for fiscal correction — although it also introduced other elements to cope with inflationary inertia. The program succeeded in eliminating the central bank's own deficit and was initially successful in fighting inflation. But it became clear in the course of the program that other losses had not been removed. Pressures to finance enterprises and avoid a liquidity crisis in the financial system resulted in a relaxation of monetary policy in mid-1990 and a revival of inflationary pressures. Attempts to reimpose monetary control met considerable difficulty at the end of the year, including a bizarre episode of expansion of central bank credits without the board of governors' approval.

It also became clear that the fiscal component was not consistent with other elements of the program. It was clearly not enough to finance a social program of the magnitude required had loss-making enterprises really been forced into bankruptcy and also to cover the needs of the bank restructuring program. Seen from this angle, the Yugoslav program of 1990 resembles other heterodox programs that had initial success in reducing inflation but later faltered because of the insufficiency of the fiscal adjustment.

At the same time, the events in the second half of 1990 also indicate that, for a stabilization program to succeed in Yugoslavia, there must be much greater political resolve to cope with wage indiscipline and loss-making enterprises than was observed in 1990. And the question remains whether financial discipline can be imposed in the system only at the macroeconomic level and without introducing private ownership of capital. The ultimate question may be whether stabilization can succeed without a comprehensive privatization program.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to examine the problems of transition faced by reforming socialist countries and to contribute to the Bank's policy dialogue with these countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Lanha Ly, room N9-083, extension 37352 (35 pages).

753. The CMEA System of Trade and Payments: The Legacy and the Aftermath of Its Termination

Martin Schrenk

A brief history and critique of the Council for Mutual Economic Assistance and conjectures about the consequences of its demise.

The Council for Mutual Economic Assistance (CMEA, sometimes referred to as

COMECON) was founded in 1949. Its European members were Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland, Romania, and the USSR. Mongolia, Cuba, and Vietnam were non-European members. Albania was a member but left after its break with the USSR. Yugoslavia was an associate member.

Past analyses of the economies of the socialist member countries tended to downplay trade and payment relations through the CMEA. The key concern of analysts was with Western external debt, borrowing requirements, and creditworthiness in convertible currencies. In that context, relations within the CMEA were peripheral. Moreover, the paradigm of multilateral trade and currency convertibility was not suited for analysis of CMEA's system of trade and payments.

Schrenk describes the CMEA system of trade and payment (the "CMEA regime") and considers how the transition from traditional socialism to a market economy is linked to changes in the mechanism for international transactions.

The author gives a brief history of the CMEA, describing its organizational structure, institutional principles, and reform efforts, and provides a brief statistical overview of the relative importance of CMEA trade for its members. The paper sets out the traditional "institutional model" of the CMEA regime, discusses its defects, and briefly evaluates the CMEA regime.

After describing the events surrounding the CMEA's demise in 1990, Schrenk conjectures about the consequences of that demise. He explains that because there is so little hard evidence and statistical data — and because the implicit political assumptions are so uncertain — many conclusions in this final section must be conjectural.

This paper — a product of the Socialist Economies Reform Unit, Country Economics Department — is part of a larger effort in PRE to analyze the systemic legacy which militates against the structural adjustment and economic recovery of Eastern Europe's socialist economies in transition. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact CECSE, room N6-043, extension 37188 (27 pages).

754. Estimating Returns to Scale with Large Imperfect Panels

James R. Tybout and M. Daniel Westbrook

Do policies that promote "bigness" in manufacturing plants also promote greater productivity? Does correlation between size and profitability constitute a case for antitrust activity?

Tybout and Westbrook provide systematic panel-based econometric estimates of plant-level returns to scale for various 3-digit and 4-digit manufacturing industries, using panel data for Chilean plants. Their findings shed light on several issues of interest to policymakers.

First, do policies that promote "bigness" in manufacturing plants also promote greater productivity? As plants grow, do they become more efficient?

They find that although several 4-digit sectors show increasing returns, general expansion of the manufacturing sector cannot be expected to yield strong economies of scale at the plant level. Taking their "best" estimates at face value, the returns to scale in manufacturing are scattered across the range of 0.8 to 1.2 at the 3-digit level and 0.7 to 1.6 at the 4-digit level. None of the 3-digit returns-to-scale (RTS) estimates is significantly different from unity, and only two of the 4-digit estimates are.

Second, it appears that plants that are inherently more efficient tend to grow larger, as Demsetz and others have argued. This inference is based on a comparison of RTS estimates that control for unobservable efficiency effects with estimates that do not. It implies, among other things, that positive correlations between size and profitability need not constitute a case for antitrust activity.

A corollary to this finding is that most RTS estimates based on cross-sectional data tend to overstate plant-level returns to scale.

As a byproduct, their analysis appears to have reopened the possibility of using Stigler's survival test to gauge the importance of returns to scale. But unlike earlier applications of this test based directly on the distribution of plant size, their results suggest using Probit estimates of the elasticity of failure probabilities with respect to plant size as crude proxies for RTS.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a PRE research project on Industrial Competition, Productive Efficiency, and their Relation to Trade Regimes (RPO 674-46). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila Fallon, room N10-021, extension 37947 (47 pages).

755. Hedging Crude Oil Imports in Developing Countries

Stijn Claessens and Panos Varangis

How a state oil-importing company can use risk management instruments to insure against price fluctuations for crude oil.

Crude oil prices have become more and more volatile since the 1973 oil crisis. Particularly since the recent Gulf crisis (crude oil prices rose and fell sharply between August 1990 and March 1991), producers, refiners, and consumers have been interested in acquiring more assurances about the prices they would pay or receive over future periods. Increasingly they have used such risk management instruments as futures, options, and swaps to protect themselves against adverse oil price movements.

Claessens and Varangis show how risk management instruments can be used by a state oil-importing company to insure against price fluctuations for crude oil. The main benefit of risk management is reduced uncertainty about the oil prices consumers and the state oil-importing company will pay rather than lower average crude oil import prices.

Claessens and Varangis simulate two scenarios: the short-term hedge, in which the state oil-importing company locks in a price for its imports for one month ahead, and the long-term hedge, in which it locks in the price for six months ahead. The short-term hedge reduces oil price volatility a potential 72 percent to 85 percent; the long-term hedge, a potential 65 percent to 81 percent. For these reductions to be realized, the prices of the crude oils hedged must move together with the futures prices. Tests are carried out to see if this is so.

Apparently oil-importing developing countries could gain considerably from using financial risk management instruments. But several constraints — par-

ticularly negative publicity and legal obstacles — can impede a state oil-importing company's use of risk management instruments. Educating government policymakers and state enterprise officials about the proper use, limits, and benefits of risk management instruments will make them more acceptable.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to study the benefits of using financial instruments to hedge the external exposures of developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Dawn Gustafson, room S7-044, extension 33714 (46 pages).

756. Taxes Versus Quotas: The Case of Cocoa Exports

Arvind Panagariya and Maurice Schiff

What are the implications of optimal Nash quotas and taxes when two or more countries compete against each other in the world market for primary commodities — in this case, cocoa?

Panagariya and Schiff are particularly interested in evaluating the concern that efficiency or policy-induced changes in the supply of exports of primary commodities — including cocoa, coffee, and tea — may lead to such a large decline in the prices of those commodities that export revenues and incomes of the exporting countries actually decline. In this paper, they focus on the implications of quantitative restrictions.

They compare the implications of optimal Nash quotas and taxes when two or more countries compete against each other in the world market.

They find that the outcome under taxes is less restrictive than under quotas — but that the countries' profits are higher under quotas than under taxes.

In simulations undertaken for the world cocoa market, they find that for most countries optimal Nash taxes yield lower profits than the initial taxes or quotas. If one of the countries becomes a Stackelberg leader, its profits rise and those of the others fall. But the rise in the Stackelberg leader's profit is lower than the decline in the other countries' profits, so total profits decline.

They also find that even if countries choose taxes or quotas optimally, growth in a country can lead to a decline in the combined real income of the exporting countries.

Their simulations cast doubt on the hypothesis analysts often advance that a market with five or more players can be regarded as roughly perfectly competitive. If this hypothesis were valid for policy formulation in the cocoa market, the optimal export taxes would be about zero. But Panagariya's and Schiff's results indicate that the outcome of the nine-country game is far from the zero-tax solution. So the optimal taxes exceed 10 percent for the largest producers (Côte d'Ivoire, Ghana, and Brazil) in the Nash-tax game and in all countries except Indonesia and Oceania in the Nash and Stackelberg quantity games.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of the World Bank research project on Commodity Exports and Real Incomes in Africa (RPO 676-70), an effort aimed at analyzing the interactions of commodity exports, real incomes, and trade policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila Fallon, room N10-021, extension 37947 (25 pages).

757. Managing the Transition: Enhancing the Efficiency of Eastern European Governments

Eric Rice

The consensus of dozens of Bank and outside experts on issues and measures essential to government reform in six Eastern European economies changing to a market economy — and on how external agencies can best aid the reform process.

The transition to a market economy in Eastern Europe requires eliminating some institutions and practices and introducing new agencies with new goals, staffed by people with different attitudes and behavior. After interviewing 42 World Bank experts and other experts in the donor and academic communities, Rice synthesizes their views on World Bank member countries in Central and Eastern Europe (Bulgaria, Czechoslovakia, Hungary, Poland, Romania, and Yugoslavia):

- Giving a broad-brush overview of what is known about capacity constraints in key public institutions involved in the transition.
- Identifying current and proposed actions of the World Bank and other donors.
- Indicating critical institutional issues on which future operational work and research might focus.

Rice finds that a consensus has emerged on five principles that establish the socially acceptable domain for government economic activity in Eastern Europe:

- Retreat from the discredited central government, as subnational governments and private enterprises assume many functions of central governments.
- Improved channels of communication between governments and their citizens, in response to increasing demand for more transparent policy and an institutionalized voice for the public in policymaking.
- A hospitable business environment, which means clarification of property rights; policy stability, consistency, and accountability; low-cost provision of government services and infrastructure; and the protection of agents from abuses in the marketplace.
- Concern for public welfare and social justice, as citizens of post-communist Eastern Europe hope to obtain both the familiar basic securities (job security, subsidized consumption, and universal access to basic health care and education) as well as new rights and freedoms.
- Efficient government administration at all levels, under the scrutiny of elected legislatures, citizens groups, and internal audit and review agencies.

Rice identifies five areas in which external institutional assistance is needed: (1) policy advice on a range of issues; (2) more in-depth technical assistance; (3) a large-scale training effort to help close Eastern Europe's massive "skills gap" in economics and business; (4) diagnostic research; and (5) the design of broad, medium-term action plans. For each of these issues, he describes numerous measures to be pursued.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — is part of a larger effort in PRE to evaluate the economic and

institutional issues surrounding Eastern Europe's current transformation. Earlier versions of this paper were presented in seminars at Harvard's Russian Research Center and the World Bank, and at an economics conference sponsored by IREX in Bucharest in April 1991. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Priscilla Infante, room N9-059, extension 37642 (45 pages).

758. Is There Excess Co-Movement of Primary Commodity Prices? A Co-Integration Test

Theodosios B. Palaskas and Panos N. Varangis

Tests that cast doubt on the existence of excess co-movement in commodity prices.

Commodity analysts and traders have long held the perception that primary commodity prices tend to move together over time — even if they are unrelated commodities (with no cross-price elasticities).

In the case of unrelated commodities, common shocks should account for the co-movement of commodity prices. At issue is whether there is co-movement beyond what can be explained by the common shocks, that is, macroeconomic shocks, as Pindyck and Rotemberg recently suggested.

As a first step, Palaskas and Varangis used the cointegration technique to examine whether there is a long-term stationary relationship between seven unrelated commodity prices. All tests accepted the hypothesis of co-movement between all commodity pairs.

In their second step, they used the results from the cointegration to build error correction models for each of the commodities. They used the error correction models to examine the hypothesis of short-run excess co-movement — that is, co-movement above and beyond what can be explained by shocks with common effects (macroeconomic variables).

With some exceptions, the tests cast doubt on the existence of excess co-movement in commodity prices. When they used monthly data for most of the commodities tested, neither the macroeconomic variables nor the other commodity prices explain much of the variation in a commodity price.

In monthly series, however, the tests applied may be inappropriate, given the existence of non-normality in the regression errors. In other words, the tests applied have the wrong size. Using annual data, the explanatory power of the macroeconomic variables increases significantly, but other commodity prices still do not contribute much in explaining the variations of a commodity price.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to explain commodity price behavior and model the global markets for primary commodities. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Dawn Gustafson, room S7-044, extension 33714 (41 pages).

759. The Profamilia Family Planning Program, Colombia: An Economic Perspective

Jesus Amadeo, Dov Chernichovsky, and Gabriel Ojeda

Profamilia, an affiliate of the International Planned Parenthood Federation, provides more than 60 percent of Colombia's family planning services. In 1986, Profamilia recovered more than half of its costs, which is rare for family planning services. But it could have provided more protection for the same amount of money.

Profamilia, an affiliate of the International Planned Parenthood Federation, provides more than 60 percent of Colombia's family planning services.

Profamilia's outreach effort (CBD) delivers mainly pills in rural and outlying urban areas, through 100 field workers. Its two clinic-based programs provide (1) voluntary sterilization and (2) clinical services: gynecological consultation, intrauterine device (IUD) services, and over-the-counter sales of contraceptives.

In 1986, these three programs delivered more than 1 million "couple years of protection" (CYP) at a cost of about US$6.43 million. The sterilization program provided the most protection. The clinical and CBD programs each provided about 43 percent of revenues. The outreach program accounted for 31 percent of costs, the clinical program 39 percent, and the voluntary sterilization program 30 percent.

Amadeo, Chernichovsky, and Ojeda address the question: Could Profamilia have provided more protection with the same resources? They found that:

- Operations tend to be constrained by limited personnel and supplies. With more of each, more protection could be delivered.
- The labor costs and unit costs of contraception are lower in the outreach and clinical programs, which can be expanded with available infrastructure. The marginal unit cost of voluntary sterilization is higher partly because surgeons are paid "by the piece." (But the effects of educating the people about sterilization may make sterilization more cost-effective in the long run than this study found to be true for the short term.)
- The clinical program (delivering mainly the IUD) and the outreach program (delivering mainly the pill) are the most cost-effective. The voluntary sterilization program is the least cost-effective because of the higher cost of sterilization, the heavy subsidy for sterilization, and the higher mean age of clients who are sterilized. It might be more efficient to shift emphasis from sterilization to the other two programs.
- Fees for service should be seriously considered, and more research done on the issue. More demand could be met with more workers, and higher prices — particularly for sterilization — might not reduce revenues.
- More resources should be targeted to areas where there are proportionately more mothers and where people are better educated (and hence more receptive to family planning).
- Experienced and married workers sell more in the outreach program than their junior, unmarried colleagues. Experienced workers tend to be paid more than inexperienced workers, but married workers tend to be paid less than unmarried workers. It would pay to retain experienced staff (who are more likely to be married).
- In both the clinical and surgical programs, output would increase if there were proportionately more nurses and fewer doctors.

The underlying hypothesis of this study (which remains untested) is that there is sufficient demand for the various operations to expand.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to examine the relative importance of constraints of demand and supply on the use of contraception. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (113 pages, with tables).

760. How Conflicting Definitions of "Manufactures" Distort Output and Trade Statistics

Alexander J. Yeats

Inconsistencies in definitions of "manufactures" used to compile output and trade statistics produce a discrepancy of $60 billion in estimates of developing country exports. Clearly, international organizations must resolve these discrepancies.

Economists often stress the importance of increasing the production and exports of manufactures in developing countries, but national and international agencies are inconsistent about how they define "manufactures."

The definition of "manufactures" used in compiling production data for industrial and developing countries is far broader than the definition used for trade statistics. This limits the analytical utility of output and trade data for studies using, say, apparent consumption or import penetration ratios.

International agencies also use different definitions of manufactures when compiling trade statistics. For some countries, these definitional changes produce major differences in the value and share of manufactures exports and imports.

Yeats assesses the analytical implications of six different definitions by comparing results when each is used to tabulate exports of the "manufactures" of 72 developing countries.

He shows that the different definitions produce a discrepancy of $60 billion in estimates of developing country exports.

Sensitivity tests show that five or six products — especially refined petroleum (SITC 332) and some processed food products — are responsible for the main discrepancies. These items are included in the UNIDO (trade) and most agencies' output definitions but are excluded from the trade definition used by UNCTAD, GATT, and the World Bank.

Clearly, international organizations must resolve these inconsistencies in definitions of output and trade statistics.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to improve the quality and consistency of statistics needed to analyze developing countries' trade performance, industrialization, and growth. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Jean Jacobson, room S7-037, extension 33710 (21 pages).

761. Uncertainty and the Discrepancy between Rate-of-Return Estimates at Project Appraisal and Project Completion

Gerhard Pohl and Dubravko Mihaljek

This statistical survey of more than 1,000 World Bank projects reveals a sharp divergence between estimated rates of return at appraisal and at project completion. Traditional methods of project evaluation and selection have been unable to reduce the high degree of uncertainty associated with project analysis.

Pohl and Mihaljek analyze the World Bank's experience with project analysis from a sample of 1,105 projects. They compare estimated rates of return at appraisal with re-estimated rates of return at project completion (that is, at the completion of construction works, usually five to ten years after appraisal).

Their findings confirm a high degree of uncertainty in project analysis. Only a small part of the discrepancy between estimated rates of return at appraisal and the re-estimated rates of return at project completion can be explained, even with the benefit of hindsight.

World Bank appraisal estimates of rates of return are too optimistic. But, explain Pohl and Mihaljek, factors usually associated with this optimistic bias (cost overruns, implementation delays) seem to explain only a small part of unexpected changes in project performance. Uncertainties seem to be higher in the directly productive sectors (agriculture and industry), where rates of return can be altered through external market forces or domestic policy shocks. Estimated rates of return seem more stable for infrastructure projects.

One alternative to correcting modal estimates of implementation variables for "bad surprises" might be to set different minimum rate-of-return criteria for different types of projects (10 percent for transport, for example, but 15 percent for agricultural and industrial projects), based on observed divergences in rate of return.

Project analysis simply has to cope with a large degree of uncertainty. Traditional methods of project evaluation and selection have been unable to reduce this large measure of uncertainty.

This paper is a product of the Economic Advisory Staff, Office of the Senior Vice President, Operations. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Patricia Lee, room E 3-087, extension 81950 (44 pages).

762. Debt, Debt Relief, and Growth: A Bargaining Approach

Daniel Cohen and Thierry Verdier

Accumulation of reserves and debt-equity swaps can help a debtor country alleviate the distortionary burden of taxing its citizens. But caveats and qualifications apply.

Debtor countries in the 1980s paid creditors with taxes the governments had to levy on their citizens. Because taxes must be collected in a distortionary way, however, governments are tempted to "upfront" the adjustment effort. Doing so helps relieve investment and growth of the burden of expected future taxation.

Governments have two ways of upfronting: accumulating reserves and engaging in an equity swap. Cohen and Verdier compare these methods with a constant rescheduling agreement. In the rescheduling agreement, it is assumed that no reserves can be accumulated and that all tax collections go to the creditors. Their findings:

Rescheduling agreement. A "memoryless" (past-independent) rescheduling game was studied. It is Pareto-inefficient. Two Laffer curves can take

place. In one, the lenders would want to reduce the vulnerability of the debtor to their sanctions (that is, required taxation). In the other, the debtor would actually prefer less growth than more.

The role of reserves. Use of reserves can improve a country's welfare, over the case of the rescheduling agreement. The country must, however, be able to commit itself to a tax rate before negotiations start. Otherwise, reserves are useless.

Debt-equity swaps. The outcome always Pareto-dominates the outcome of the rescheduling equilibrium. Banks always gain a fraction of the country's capital above the share of output that they gain in the rescheduling equilibrium. Thus banks are relatively less "impatient" than the country to reach a debt-relief agreement.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to understand the impact of debt reduction on developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheilah King-Watson, room S8-040, extension 31047 (27 pages).

763. A Valuation Formula for LDC Debt

Daniel Cohen

Looking at the true cost of debt buy-back on the secondary market requires a valuation formula for LDC debt.

A large gap may lie between the amount of debt relief that is nominally granted to a debtor and that which is actually given up by the creditors. To help put that gap in perspective, Cohen proposes a valuation formula that provides:

- The price at which a buy-back of the debt, on the secondary market, is advantageous to the country.
- The value to creditors of having the flows of payment guaranteed against factors that hinder a country in servicing its debt.
- The degree of tradeoff between growth of payments and levels of payments.

It is not good business for a country to announce its intention to buy back debt. According to Cohen's calculation, doing so immediately raises the price — by as much as 45 percent when half the debt is repurchased. A favorable (small) buy-back price is shown to be (on average) about half the observed market price.

The value of guarantees, Cohen argues, cannot exceed 25 percent of the market price of the debt. Typically they're worth only about 10 percent.

As for the degree of tradeoff, Cohen's formula finds that a 1 percent additional growth rate is worth a 15 percent increase in the flows of payments.

Cohen also offers an assessment of the Mexican debt-relief agreement reached in 1990.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to understand the determination of secondary market prices for developing country debt and the impact of debt buy-backs on developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheilah King-Watson, room S8-040, extension 31047 (20 pages).

764. African Financing Needs in the 1990s

Jorge Culagovski, Victor Gabor, Maria Cristina Germany, and Charles P. Humphreys

Africa's external financing problem is much more than a structural imbalance between imports and exports. Debt relief measures will be an important source of financing.

The gross foreign financing requirements for all of Sub-Saharan Africa — before debt relief of any kind or the accumulation of new arrears — are projected to average about $28 billion a year (in nominal prices) between 1991 and 2000, or about $50 per capita annually. These figures compare with estimated gross financing of $27-$28 billion in 1988 and $24-$25 billion in 1982. This is equivalent to only about 12 to 14 percent of total capital flows to the developing world in 1988.

The annual levels decline in mid-decade to about $26-$27 billion a year but rise to more than $30 billion by 2000. This variation in the trend reflects combined movements in the balance of trade in goods and services (excluding interest), debt service obligations, targets for increases in international reserves, and private transfers. High levels in the early years are the result of heavy debt service obligations; the later decline in these obligations helps reduce requirements mid-decade. Debt service obligations rise in 1991-93 on nonconcessional debt contracted in the last half of the 1980s but decline in 1994-97 and stabilize after that. The rising requirements in the last part of the 1990s result mainly from the continually widening trade deficit.

Debt service obligations — before rescheduling and before the accumulation of any additional arrears — comprise more than half of the gross external financing requirements in the first half of the 1990s, but fall to about 40 percent by the end of the decade. Debt service obligations were equivalent to about three-fourths of the gross external financing requirements in 1988 but only about a third in 1982.

The importance of debt service in total requirements reveals that the external financing problem in Africa is much more than a structural imbalance of imports and exports. Debt relief measures will be an important source of financing.

For low-income countries, however, debt relief alone will not solve their financing problem because their trade balance will continue to deteriorate. But for most middle-income countries where the trade balance is positive, debt relief may have a much more decided impact.

This paper — a product of the Economics and Finance Division, Technical Department, Africa Regional Office — was presented at the World Bank symposium on African External Finance in the 1990s, held in September 1990 in Washington, DC. A condensed version of the paper will appear in the forthcoming symposium volume. Copies of the complete paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Mavita Gomez, room J3-282, extension 34349 (87 pages, with figures and tables).

765. Withholding Taxes and International Bank Credit Terms

Harry Huizinga

International differences in withholding tax rates on interest payments on interna-

tional loans are reflected in bank credit terms. As a result of the limits on tax credits for foreign-interest withholding taxes introduced in the 1986 U.S. tax reform, credit terms for developing countries will probably be less favorable.

Many countries levy withholding taxes on interest payments on international bank loans and other debt instruments. These withholding taxes can be credited against taxable income in the major creditor nations, such as the United States and the United Kingdom.

International bank loan contracts conventionally state the interest rate or spread above the benchmark rate net of withholding taxes. For a given net interest rate, an increase in the withholding tax rate increases the withholding taxes paid in the borrower country as well as creditable in the creditor country. So international bank loans become more profitable to the banks the higher the rate of withholding tax imposed by the borrower country.

As banks compete for loans, one expects these institutions to offer low interest spreads to countries that impose high withholding taxes. Huizinga shows empirically that international differences in withholding tax rates are indeed largely reflected in bank credit terms.

Using a sample of 510 loans to 14 debtor nations originated between 1971 and 1981, he finds that the developing countries have been able to reduce their interest expense by an estimated 56 cents for every dollar of tax withheld at the source. U.S. banks passed on close to 100 percent of their potential U.S. income tax credits to developing countries by way of lower interest spreads during the go-go lending years of 1976-78.

The cost of bank credit to developing countries is made unstable, however, as loan spreads reflect the cyclical marginal value of tax credits to the commercial banks. In particular, tax credits were fully reflected in loans with maturities of four years or less, but only partially in longer-term loans. The rationale appears to be that banks have doubts whether tax credits flowing from long-term loans will still be allowed in the future. They may also doubt whether they will have enough taxable income to actually realize the full tax savings offered by the tax credit.

Huizinga concludes that tax treatment in the creditor country of interest income from foreign sources probably still has an important effect on credit terms. In particular, limits on tax credits for foreign-interest withholding taxes, as effectively introduced by the 1986 U.S. tax reform, will probably lead to less favorable credit terms.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of PRE's continuing effort to understand what determines the cost and quantity of commercial bank credit available to developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-040, extension 31047 (32 pages).

766. Economic Crisis, Structural Adjustment, and Health in Africa

Francois Diop, Kenneth Hill, and Ismail Sirageldin

Has the economic crisis of the 1980s in Sub-Saharan Africa increased mortality or at least reduced its rate of decline? Nationally, no. But the urban poor suffered more, the rural nonpoor less.

Diop, Hill, and Sirageldin applied two types of analysis to two types of data to try to quantify any short-term effect economic crisis and adjustment might have had on child mortality in Sub-Saharan Africa.

First they analyzed aggregate data for ten countries covered by the Demographic and Health Surveys project. Then they analyzed an elaborate data set for Cote d'Ivoire collected in the mid-1980s. Both analyses used time-period dummy variables to identify the effects of crisis and adjustment. Despite very different methodologies and data sets, the two analyses produced surprisingly similar results.

They found that in the short run, neither crisis nor adjustment increased child mortality at the national level, relative to countries not undergoing adjustment (but not necessarily avoiding crisis).

Because of economic decline and adjustment policies, real income declined in urban areas. But rural incomes among producers of cash crops may not have been negatively affected, because the agricultural policy components of structural adjustment have been relatively protective of agricultural incomes.

The effect of structural adjustment on the health sector in Côte d'Ivoire is unclear. The structure of public health spending in 1985 suggests that the emphasis on curative care, based disproportionately in Abidjan hospital centers, has not shifted. And immunization coverage showed no signs of improvement between 1980 and 1984. As subsidies to urban consumers have been curtailed and real urban income has declined, child health in the urban areas has deteriorated, particularly in the postneonatal period. This deterioration has disproportionately affected families in the top 40 percent of urban income distribution — mostly civil servants.

The LSMS data suggest that families with no savings have been severely affected by these changes in child health. In the rural areas, child health has not been significantly affected by the economic crisis or adjustment policies. This finding is consistent with the notion that when families are insulated from (or marginally affected by) public services and subsidies, they will also be insulated from changes in these services and subsidies during adjustment.

It would be surprising if economic crisis and adjustment, both of which imply falling real wages for some components of society, had no effect on child mortality. But countries of Sub-Saharan Africa have not yet reached the levels of development and industrialization that now-developed countries had reached when the link between their economic and health indicators weakened.

Diop, Hill, and Sirageldin found no across-the-board increase in mortality. Rather, they found a change in relative levels among groups that favors the rural nonpoor at the expense of the urban middle-income and the urban poor, with little net effect at the national level.

Of course, child survival interventions expanded greatly in the 1980s, and would have had their greatest impact in rural, poorly served areas. How much the effect of crisis and adjustment has been cancelled out by immunizations and oral rehydration therapy it is impossible to tell.

Diop, Hill, and Sirageldin examined only short-term effects — the only ones they could expect to measure. The long-run effects of crisis and adjustment will depend on adjustment's success in boost-

ing sustained long-term growth. Such growth should reduce child mortality and speed the reduction of fertility as well, thus reinforcing declines in child mortality.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger study undertaken by PRE of African health policy. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (73 pages).

767. Framework for Macroeconomic Analysis (Applied to Kenya)

Colin A. Bruce and David Ndii

Models of the RMSM-X genre can — while preserving their logical structure — incorporate behavioral equations and provide useful insights into policy actions that would correct internal and external macroeconomic imbalances.

Bruce and Ndii develop a macroeconomic model for Kenya that projects detailed national, fiscal, monetary, and private sector accounts, and the balance of payments. With no changes in its logical structure, the model also calculates the magnitude of policy adjustments that would eliminate external and internal imbalances.

Their approach emphasizes transparency and user-friendliness, which they achieve in two ways. First, historical data — the basis for projections — are entered in worksheets that are similar (in format, coverage, and units of account) to standard tables produced by the data generating agencies. Second, key behavioral assumptions and targets are entered in a clearly designated worksheet. This worksheet contains details such as commodity price projections and the LIBOR rate that would normally be provided by the Bank's International Trade Division. This worksheet also accommodates coefficients for the import and export price and income elasticities by major commodity groups; the interest and income elasticities of private investment; and the impact of inflation, income growth, and changes in interest rates on the demand for currency, demand deposits, and time deposits. The targets include domestic inflation and sectoral growth rates.

Initially, they use the framework to project detailed national and sectoral accounts, including the financeable fiscal deficit. But they are especially interested in the external financing gap and the residual public sector borrowing requirement (PSBR) that emerge in these base projections. For ease of exposition, these gaps are assumed to be independent.

Next, Bruce and Ndii illustrate the model's usefulness in calculating the policy adjustments — exchange rate, interest rate, and monetization — that would eliminate internal and external macroeconomic imbalances. The policy adjustments are applied independently and jointly. Predictably, the exchange rate depreciates to eliminate the external financing gap. Similarly, the real domestic loan interest rate rises, crowds out private investment, and releases financing for the residual PSBR. The model also calculates the level to which domestic inflation would have to rise to finance the residual PSBR through an inflation tax.

When activated jointly with exchange rate depreciation, a smaller increase in the interest rate eliminates the residual PSBR. This is because the exchange rate adjustment improves the net foreign assets position and increases the scope for creating domestic credit. Understandably, therefore, the increase in interest rate is even smaller when action in the exchange rate is combined with partial monetization of the fiscal deficit.

As an important by-product, these simulations also illustrate the impact of exchange rate and interest rate adjustments on the fiscal deficit.

Subsequent versions of the model will endogenize growth and extend coverage to the consolidated public sector.

This paper — a product of the Country Operations Division, Eastern Africa Department, Africa Regional Office — is part of a larger PRE effort, led by the Macroeconomic Adjustment and Growth Division, Country Economics Department, to develop a macroeconomic projection model that will improve and extend the Bank's RMSM model. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Margaret Lynch, room J10-271, extension 34046 (104 pages, including figures and tables).

768. Going to Market: Privatization in Central and Eastern Europe

Manuel Hinds and Gerhard Pohl

Insights into the major task of privatization facing Eastern European countries: about the key decisions to be made and about such important issues as whether to sell state enterprises or give them away (and to whom and in what sequence).

Privatization is one of the most challenging elements of economic reform in Central and Eastern Europe. The task is misunderstood, as is evident in misplaced analogies about privatization in France, Chile, the United Kingdom, and other countries — where state enterprises had operated in a predominantly market-oriented environment and in a business culture dominated by private enterprise.

The centrally planned economies lack the institutional infrastructure of market economies, and the magnitude of their task is totally different.

State enterprises account for most of the output in these economies, for one thing. The declared objective of reducing state ownership to levels resembling those of Western Europe within, say, five years would entail privatizing 10 percent to 20 percent of output and employment per year. This will require entirely different solutions.

Moreover, privatization is taking place at the same time as other far-reaching economic and political reforms, and before the barest elements of the legal framework of a market economy and a rudimentary capital market are in place and functioning.

Hinds and Pohl briefly discuss other major elements of economic reform closely linked with privatization: macroeconomic stability, price and market reforms, and a redefined role for the state.

They explain the key choices to be made in privatization: which state assets should be privatized, whether assets should be sold or given away, how to physically and financially restructure enterprises to meet present realities, and what role to allow foreign investors.

Three factors determine the maximum speed at which privatization can be carried out: political factors, the physical limits imposed by the institutional arrangements needed to design and imple-

ment the privatization program, and the speed at which minimum institutional arrangements essential for the functioning of a market economy can be put in place (the laws and provisions regulating private activity) and the main obstacles removed (such as monopolistic privileges now enjoyed by many enterprises).

One of the most important decisions is whether such restructuring should be carried out by the private sector or the government — whether privatization or restructuring should come first. Hinds and Pohl argue that restructuring could be done in two stages. The first, which would not include major investments, could be carried out by the government, or after partial privatization. Major investment should await full privatization.

Another key problem is the sequencing of reforms — in particular, in what order to reform enterprises and the financial system. This problem could be solved by splitting the banking system, creating private banks to lend to new private ventures and privatized enterprises and leaving the old banks to clear up past loans.

In discussing the design of the privatization process, Hinds and Pohl consider how to balance the pros and cons of both major approaches: selling enterprises or making uncompensated transfers (direct transfers of shares, distribution through vouchers, and distribution through intermediaries).

Finally, they briefly describe initial experiences with privatization in Hungary, Poland, Czechoslovakia, Yugoslavia, Romania, Bulgaria, Albania, and the Soviet Union.

This paper is a product of the Trade, Finance, and Public Sector Division, Technical Department, Europe, Middle East, and North Africa Regional Office. The paper was presented at the World Bank/Treuhandanstalt Seminar on Privatization in East Germany and Eastern Europe, held in Berlin in May 1991. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Luz Hovsepian, room H9-065, extension 37297 (22 pages).

769. Entry-Exit, Learning, and Productivity Change: Evidence from Chile

Lili Liu

The effects of plant turnover and learning on productivity growth are econometrically measured using a large panel of Chilean establishments covering the period 1979-86.

Do competitive pressures really force inefficient producers to shut down? Does the entrance of new producers typically increase or worsen industrywide efficiency? Is there evidence of systematic learning processes? If there is, do these processes differ across plant cohorts? How do the effects of plant turnover combine to shape overall rates of industrial productivity growth?

Liu addresses these largely unexplored questions by applying econometric techniques from the efficiency frontiers and the panel data literature. She constructs plant-specific time-variant technical efficiency indices for surviving, exiting, and entering plant cohorts. She then uses these to compare productivity growth rates across plant cohorts and to examine the net effect of plant turnover and learning patterns on manufacturing-wide productivity growth.

The analysis is based on plant-level panel data for all Chilean manufacturing plants with at least 10 workers, covering eight years in the post-reform adjustment period 1979-86.

Liu finds the importance of plant turnover and different learning patterns across cohorts in driving the Chilean manufacturing-wide productivity changes. She finds that:

- The evidence supports the hypothesis that competitive pressures force less efficient producers to fail more often than others. Average technical efficiency levels are higher among surviving and entering plants than among exiting plants. These differences in productivity across cohorts are both systematic and persistent over time. The gap in productivity between incumbents and exiting plants, and between entering and exiting plants, has widened over time, while the gap between incumbents and entering plants has shrunk over time. This is because exiting plants have declining productivity over time, while entering plants gradually speed up their productivity growth. Moreover, competitive pressures have driven both incumbents and entrants to improve their productivity.
- The ratio of skilled labor to unskilled labor is higher and increasing more rapidly among incumbents and entrants than among exiting plants, providing an important source of learning and productivity growth.
- Although the economywide recession affected the productivity of each cohort to different degrees, there are steady increases in productivity over the sample period, reflecting both the replacement of inefficient producers by efficient ones and the improvement of productivity by incumbents and entrants.

These efficiency gains have not been isolated by traditional total factor productivity studies based on sectoral data. These gains suggest that microeconomic reform — including trade liberalization, privatization, and the deregulation of markets — have been effective in promoting efficiency improvements in the Chilean manufacturing sector.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of the PRE research project on Industrial Competition, Productive Efficiency, and Their Relation to Trade Regimes (RPO 674-46). Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Dawn Ballantyne, room N10-023, extension 37947 (41 pages). September 1991.

770. Privatization in Eastern and Central Europe: Objectives, Constraints, and Models of Divestiture

Farid Dhanji and Branko Milanovic

The privatization process must be seen as transparent and absolutely above reproach and the rules of the "market" game must be clearly enunciated and adhered to in divestitures. Improvements in economic performance will be considerably diluted if the new market economy is based on an extensive network of special privileges.

This paper is devoted largely to a taxonomic discussion of objectives, constraints, and models of divestiture in privatization programs, but Dhanji and Milanovic also

present some concluding observations.

The plethora of divestiture options makes choice difficult. From an individual government perspective, the choice of preferred model will vary depending on the objectives, the weights given to the objectives, and the estimation of practical difficulties in implementation. In this respect, there is no correct answer about how to privatize. Decisions are highly political, mediated through still inchoate political processes, invoking strong interests and lobbies, and with a genuine possibility of popular backlash in societies sensitive to wide discrepancies in wealth.

Privatization models are not exclusive. It may be possible, in fact, to combine solutions that give workers and managers a stake in their firms, grant a proportion of enterprise equity to the general population (either directly or through mutual funds), and provide revenue for the state through general sales. Such combined options are beginning to surface in privatization debates.

During the period when firms are being readied for divestiture, governments can be expected to be besieged by waves of requests for exemptions, concessions and protection from firms about to be privatized or from prospective owners. It will be extremely important to resist these pressures. The improvement in economic performance that is one of the major objectives of reform programs will be considerably diluted if the new market economy is based on an extensive network of special privileges. Moreover, experience from elsewhere testifies to the difficulty of removing concessions once given.

This paper — a joint product of the Socialist Economies Reform Unit, Country Economics Department, and the Country Operations Division, Country Department IV, Europe, Middle East, and North Africa Regional Office — is part of a larger effort in PRE to study transition in formerly planned or non-market economies. This is a revision of a paper prepared for the Conference on Privatization and Ownership Changes in Central and East Europe held at the World Bank in Washington, DC in June 1990. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact CECSE, room N6-025, extension 37188 (28 pages). September 1991.

771. Macroeconomic Structure and Policy in Zimbabwe Analysis and Empirical Model (1965-88)

Ibrahim Elbadawi and Klaus Schmidt-Hebbel

A macroeconomic general equilibrium model for Zimbabwe

Elbadawi and Schmidt-Hebbel develop and apply a macroeconomic general equilibrium model for Zimbabwe.

Zimbabwe faces the challenge of engaging in a program of fiscal stabilization and structural reform to address its current fiscal imbalance, high unemployment, and low growth prospects. Elbadawi and Schmidt-Hebbel discuss macroeconomic changes over the last two decades, provide a model of the macroeconomic structure, and estimate aggregate equations for the main goods and asset markets.

The macroeconomic framework they model integrates three features of the country's macroeconomy:

- The noninflationary and almost exclusively domestic financing of the public sector deficit, which has been similar in gross terms to the private sector surplus.
- Sustained negative or low real interest rates, together with no apparent sign of excess demand in credit markets.
- Most important — after the dramatic economic declines of the late 1970s that resulted from economic sanctions and civil war — the fact that sustained, high growth has never materialized.

The framework presented in this paper is integrated into a general equilibrium macroeconomic model (a RMSM-XX model) in a companion paper, "Macroeconomic Adjustment to Oil Shocks and Fiscal Reform: Simulations for Zimbabwe, 1988-95 (WPS 772). In that paper it is used to analyze alternative fiscal and oil price scenarios for Zimbabwe.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of the division's development of RMSM-XX, an applied macroeconomic general equilibrium model for policy simulations and economic projections. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Susheela Jonnakuty, room N11-039, extension 39074 (79 pages). September 1991.

772. Macroeconomic Adjustment to Oil Shocks and Fiscal Reform: Simulations for Zimbabwe, 1988-95

Ibrahim Elbadawi and Klaus Schmidt-Hebbel

Deep fiscal reform will significantly help Zimbabwe achieve a sustainable debt path, a decline in interest rates paid on public debt, and a recovery of private consumption and investment.

Elbadawi and Schmidt-Hebbel develop and apply a macroeconomic general equilibrium model for Zimbabwe. The model integrates a behavioral estimated model structure, taken from a companion paper, with the relevant budget constraints for a six-sector disaggregation into a comprehensive framework.

Starting with 1988 as a base year, they present simulations for a base scenario covering the period 1988-95. From the different macroeconomic issues and reform requirements identified in the companion paper as relevant for Zimbabwe today, they select two for performing alternative scenario simulations here: a continuation of the current oil shock and strong fiscal stabilization.

The oil shock is shown to reduce growth, increase inflation, depreciate the real exchange rate, and reduce private investment in Zimbabwe, a country heavily dependent on imported oil.

Fiscal adjustment is a major challenge for stabilization and growth faced by Zimbabwe's policymakers today. The paper's simulations show that deep fiscal reform will significantly help Zimbabwe achieve a sustainable debt path, a decline in interest rates paid on public debt, and a recovery of private consumption and investment.

(See companion paper, "Macroeconomic Structure and Policy in Zimbabwe: Analysis and Empirical Model, 1965-88," WPS 771.)

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of the division's development of RMSM-XX, an applied macroeconomic general equilibrium model for policy simulations and economic projections. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Susheela Jonnakuty, room N11-049, extension 39074 (94 pages). September 1991.

773. Are Ghana's Roads Paying Their Way? Assessing Road Use Cost and User Charges in Ghana

Reuben Gronau

The study of road use costs in Ghana showed, first, that such studies are in fact feasible in LDCs, notwithstanding gaps in the data, and second, that they can reveal important inefficiencies in the tax system.

Gronau studied how much road damage contributes to road use costs in Ghana and how the marginal social costs should be recovered. This required understanding the road deterioration process better and analyzing the implications for vehicle operating costs and road user charges.

The most important thing Gronau learned is that studies of road-user costs are feasible in reputedly data-poor countries. In Ghana, the problem was not so much missing data as conflicting sources of data. Many of these data sources did not exist a few years ago and have been established as part of the transport rehabilitation program. The data sources need consolidating, but the experience in Ghana proves the feasibility of information gathering and its importance as part of any major transport program. An important component missing in Ghana is data on the axle-loading of heavy vehicles — as different types of axle-load inflict significantly different degrees of damage.

Gronau found that to bridge the gap between road-user costs (including the cost of road maintenance) and charges, the annual fee for heavy trucks should be raised tenfold — to about $800 per vehicle. Fuel taxes alone are not adequate to distinguish fully the large difference in road damage costs incurred by heavy trucks and private cars. The taxing instrument most deficient in Ghana is the annual licensing fee. Not only should licensing fees for heavy trucks be ten times higher than they are now, but exemptions from the licensing fee should be canceled and registration rules strictly enforced.

Even then, charges on heavy vehicles will not cover costs unless current legal limits of axle loading are obeyed. A more efficient means of reducing the damaging effects of heavy vehicles lies in structuring the annual fees to reflect how much more damaging two-axle heavy vehicles are than multiaxle vehicles.

If raising the licensing fee for heavy trucks is not feasible, certainly the government should cancel heavy trucks' exemption from import duties. An import tax of 15 percent and a 10 percent purchase tax (the standard rate on consumption imports) will go a long way toward recovering the marginal cost of road use – – and will be much harder to evade than the license fee.

Gronau found the issue of redistribution of costs and fees of secondary importance in Ghana, because of the country's low fuel consumption, the current low level of fuel taxes, and the fact that expenditures on fuels are proportionately the same for the poor and the nonpoor.

This paper — a product of the Transport Division, Infrastructure and Urban Development Department — is part of a larger effort in PRE to study and demonstrate methods for designing transport user charges and efficient transport prices. This research was funded by the World Bank's Research Support Budget, RPO 674-37, "Transport Taxation and Road User Charges in Sub-Saharan Africa." Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Jennifer Francis, room S10-063, extension 35205 (44 pages). September 1991.

774. Agricultural Pricing Systems and Transportation Policy in Africa

Mark Gersovitz

When agricultural production is taxed, the system of producer prices, transport logistics, and decisions on investments in transport for exports must be considered together.

Many African states raise revenue by taxing export crops. A common tool for this purpose is marketing boards. Marketing boards purchase crops at depots established near areas of cultivation — at prices that yield a profit to the board. They also arrange for processing and the transport of the product from depots to port. The cost of transport to the farmer, given the price offered for his crop at the depot, will affect his decision on production and on the use of his own transport resources. The best policy for the state (or marketing board) is to raise the needed amount of revenue at the least deadweight loss. Gersovitz evaluates the benefits available from alternative uses of the instruments available to the marketing board:

- The purchase price for the crop at a particular location (and, implicitly, the cost of transport to the farmer).
- The location of depots.
- The scheduling of the evacuation of crops by location.

If the state taxes the crop, the best policy is to provide a partial subsidy of transport. The worst policy is pan-territorial pricing (paying the same price per unit at any depot, an implicit 100 percent subsidy of transport from depot to port). A pure export tax (farmer transports crop to port at own cost) is only slightly better.

The deadweight loss from pan-territorial pricing (for a given tax yield) increases with the supply elasticity of the crop. And the relative cost of pan-territorial pricing rises as the needed amount of tax revenue rises.

Gersovitz finds that returns (in terms of producer surplus) to transport investments (lower transport cost) are largest under pan-territorial pricing, lower under optimal pricing (a partial subsidy of transport), least under a pure export tax.

Gersovitz also examines different patterns of depot location. He finds that unless depots are densely spaced, farmers may deliver their crops to the depot nearest to them but not nearest to the port — the heavier the transport subsidy, the greater the risk of this raising transport costs.

He also finds that evacuating crops in an irrational order — from the furthest depots first, and the closest depots last — tends to increase postharvest losses and to engender inefficient use of and investment in transport.

The significance of the research for operations is to demonstrate the interdependence of agricultural pricing policy and marketing board logistics with transport use and the demand for transport investments, and to present orders of magnitude of cross-effects that ought to be investigated in decisions about agricultural pricing policies and transport investments.

The parameters for Gersovitz's analytical model of transport are derived from data for 56 cotton-producing zones of Côte d'Ivoire.

This paper — a product of the Transport Division, Infrastructure and Urban

Development Department — is part of a larger effort in PRE to analyze the macrolinkages of sector investments and pricing policies. This research was funded by the the World Bank's Research Support Budget for research project "Transportation and Agricultural Supply Responses in Africa" (RPO 674-75), and by a grant from the Lynde and Harry Bradley Foundation to the Research Program in Development Studies at Princeton University. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Barbara Gregory, room S10-053, extension 33744 (24 pages). October 1991.

775. The Macroeconomics of Public Sector Deficits: A Synthesis

William Easterly and Klaus Schmidt-Hebbel

Ten case studies suggest that two unorthodox methods of deficit financing — inflation tax and financial repression — are both ineffective in raising revenue and disruptive of macroeconomic stability. Fiscal stabilization leads to both higher private consumption and increased investment and to external adjustment — characterized by a lower trade deficit and a depreciated real exchange rate.

Easterly and Schmidt-Hebbel examine the macroeconomic consequences of public deficits by summarizing the results of ten case studies of developing countries — Argentina, Chile, Colombia, Côte d'Ivoire, Ghana, Morocco, Mexico, Pakistan, Thailand, and Zimbabwe — as well as by examining broader evidence.

Cross-section correlations of fiscal balances with macroeconomic variables are surprisingly strong. Stable and low fiscal deficits are associated with good growth performance. Fiscal balances are positively related to investment and to current account balances. High fiscal deficits show an association with highly negative real interest rates (financial repression), money creation, and high black market exchange rate premia. The aggregate of the ten case studies shows an association between fiscal adjustment in the 1980s, improvement of the current account, and real depreciation of the exchange rate.

The case studies show that both foreign and domestic macroeconomic shocks play a secondary role in the cyclical variation and structural changes of nonfinancial public sector deficits. Active fiscal policies, under the direct control of policymakers, are both the main culprit of fiscal crises and an effective instrument in bringing about fiscal adjustment. Fiscal adjustment is achieved by reducing overblown government bureaucracies, cutting inefficient transfers and subsidies, reforming tax systems to increase broad-based taxation, and reforming or privatizing public enterprises and commodity marketing boards.

Inflation does not show any simple correlation with fiscal deficits across countries. The cross-section relationship between inflation and money creation shows a "Laffer curve" pattern, with maximum seigniorage at inflation between 68 percent and 160 percent. In contrast, the studies using individual countries' time series data find revenue-maximizing inflation rates that seem to rise with actual average inflation — the "optimum" rate is estimated to be only 4 percent in Thailand, but 966 percent in Argentina. The assumption of a money demand with constant semi-elasticity for inflation overestimates the "optimum" inflation rate in high-inflation countries and underestimates it in low-inflation countries. Seigniorage is unimportant as a steady-state phenomenon, but it can be important as a temporary source of revenue in times of crisis. Even large surges of money creation are not closely linked to accelerated inflation.

Financial repression is a common resort for countries in a fiscal crisis. But the collapse of private credit, investment, and growth in those countries following episodes of financial repression hardly makes it the recommended way to deal with crises.

Private consumption and investment are significantly affected by the public budget structure, the overall deficit, and its financing. Private consumption is reduced by income taxes — with the size of the effect in between what the Keynesian and permanent-income hypotheses would predict. Public saving (or the public surplus) tends to raise consumption somewhat — particularly in countries where the public sector has preferred access to resources of the financial system. Real interest and inflation rates — and hence how the public deficit is financed — do not affect private consumption in any systematic way.

Responses of private investment to the public capital stock (or to public investment) range widely. And the fiscal deficit explains a great deal of variation in the trade deficit and the real exchange rate. The "fundamentals" approach to the real exchange rate is vindicated, which should serve as an antidote to the notion that nominal devaluation alone can restore macroeconomic balances.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is a synthesis of a research project on "The Macroeconomics of Public Sector Deficits" (RPO 675-31). An earlier draft was presented at the World Bank Conference on Macroeconomics of Public Sector Deficits, Washington, DC, June 1991. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Rebecca Martin, room N11-053, extension 39065 (91 pages). October 1991.

776. Enforcement of Canadian "Unfair" Trade Laws: The Case for Competition Policies as an Antidote for Protection

Mark A. Dutz

An "economywide" perspective — examining all allegations of "unfair" dumping and subsidization by comparing the impact on economic efficiency of existing foreign pricing practices with the impact of alternate forms of intervention — would provide a more rational way of responding to problems that trade laws now deal with.

Canada was the first country to enact comprehensive antitrust legislation (in 1889) and the first to institute an antidumping system (in 1904). Canada's original "unfair" trade legislation reflected a desire to prohibit predatory dumping — pricing practices by foreign exporters designed "to crush out the native Canadian industry." But the result of Canada's recent enforcement of unfair trade laws has been high levels of protection for a few well-organized firms. Serious predatory, anticompetitive concerns were probably not at issue in any of the cases in which antidumping duties were assessed.

Canada's recent overhaul of its unfair trade legislation was not followed by

any dramatic change in enforcement practice. If anything, the protection bias of Canadian enforcement has increased. The bias against exports from developing countries has also increased significantly in the years following implementation of the revised antidumping and countervailing duty legislation (known as SIMA).

Comparing cases involving developed and developing countries suggests a protectionist bias against the developing country bloc. This bias increased in the years following the implementation of SIMA: while the share of imports from developing countries fell to 11 percent, their share of unfair trade cases increased to 44 percent.

Dutz argues that an approach based on competition policy principles or on an economywide perspective, by focusing on the broader impact of policies, offers an economically more rational way to deal with issues currently addressed by unfair trade remedies. While unfair trade laws aim to protect domestic competitors, competition laws strive to protect the competitive process. Although existing competition laws could be adapted to deal with cross-border pricing practices of foreign private enterprises, they do not readily address pricing practices of foreign governments. Under an "economywide" perspective, on the other hand, both private and public contentious pricing practices could be evaluated to determine how, on balance, the national economic interest would best be served. All allegations of unfair dumping and subsidies would be examined by comparing the impact of current pricing practices on economic efficiency with the impact of alternate feasible forms of intervention so that the chosen policy action results in the largest possible net economywide gains.

The concrete proposals Canada presented during the Free Trade Agreement negotiations to regulate Canada-U.S. cross-border pricing issues by competition principles demonstrate that the competition policy alternative is workable. But as Canada's unfair trade laws are administered currently, the economywide perspective fits in more readily than competition policy. Relatively minor changes to existing laws — requiring, for instance, mandatory public interest hearings for each case considered by the Tribunal, to explicitly consider the economywide impact of various forms of policy intervention — are readily feasible.

Unfortunately, international standards, as codified in the GATT and as practiced by Australia, the EC, and the United States, weigh against Canada modifying its current standard. Canada — the first country to institute an antidumping system — is now constrained from adopting more sensible policies by the weight and momentum of the system it helped to develop.

This paper — a joint product of the Industry Development Division, Industry and Energy Department and the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the economics of the emergence of "fairness" as a standard for regulating international trade, its implications for the continued openness of the international trading system, and its continued functioning as an important vehicle for development. It is a product of a research project on "Regulations Against Unfair Imports: Effects on Developing Countries" (RPO 675-52). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Nellie Artis, room N10-013, extension 37947 (52 pages). October 1991.

777. Do the Benefits of Fixed Exchange Rates Outweigh Their Costs? The Franc Zone in Africa

Shantayanan Devarajan and Dani Rodrik

Fixed exchange rates have been a bad bargain for the CFA member countries. Under reasonable tradeoffs between output and inflation, these countries would have been better off having the flexibility to adjust to external shocks.

Devarajan and Rodrik develop a simple, formal framework for clarifying the tradeoffs involved in choosing between a fixed and flexible exchange rate system. They apply this framework to the countries of Africa's CFA Zone, which have maintained fixed parity with the French franc since independence.

Because a few agricultural products and natural resources dominate their exports, member countries of Africa's CFA Zone have suffered frequent shocks in terms of trade. A flexible exchange rate could possibly have alleviated the costs of these external shocks. On the other hand, CFA member countries have managed to maintain lower inflation levels than their neighbors. The framework Devarajan and Rodrik have devised provides a way to weigh these costs and benefits.

The inflation differential between CFA and non-CFA African countries has been about 14 percentage points. Devarajan and Rodrik attribute this differential to the problems faced by countries with discretion over their exchange-rate policy — namely, that the government cannot credibly commit against using this instrument to pursue its own objectives (which may deviate from that of the private sector). In non-CFA countries, the private sector raises its prices, anticipating the government's capricious use of the exchange rate. The higher prices, in turn, force the government to devalue — and inflation results.

By contrast, the fixed exchange rate of the CFA Zone acts as a credible commitment. The government "ties its own hands" so that it will not be tempted to use the exchange rate, thereby eliciting lower wage and price increases from the private sector.

Weighing this benefit against the costs of nonadjustment to external shocks, Devarajan and Rodrik conclude — from some highly simplified calculations — that fixed exchange rates have been a bad bargain for the CFA member countries. Under reasonable tradeoffs between output and inflation, these countries would have been better off having the flexibility to adjust to external shocks.

Their conclusion is qualified by some of the other benefits of Zone membership as well as by the stylized nature of their framework.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to analyze structural adjustment in Sub-Saharan Africa. The paper was presented at the CEPR/OECD conference on International Dimensions to Structural Adjustment: Implications for Developing Country Agriculture held in Paris in April 1991. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (32 pages). October 1991.

778. A Dynamic Bargaining Model of Sovereign Debt

Eduardo Fernandez-Arias

A model of the determinants of negotiated commercial sovereign debt payments in an import-dependent economy subject to foreign exchange and fiscal constraints.

Eduardo Fernandez-Arias models a dynamic bargaining game between a highly indebted country and its commercial bank consortium, to analyze the determinants of the resulting rescheduling agreements and the net transfer of resources over time.

The bargaining game is based on the simple paradigm that if no agreement is reached for a current (possibly partial) payment, the banks would apply default sanctions. Fernandez-Arias found that under general conditions settlements would be reached and default sanctions would not be applied in equilibrium. But the default sanctions would be a credible threat underlying the negotiations and determining the equilibrium payments. These equilibrium payments in turn would determine the credit ceiling (the present discounted value of expected payments) and the later commercial discounts on the debt market.

Unlike other bargaining games, this one explicitly models the debtor country's economic structure, featuring an import-dependent economy subject to foreign exchange and fiscal constraints. Moreover, the model is truly dynamic in the sense that the future negotiating environment — current investment — is endogenously determined by current bargaining outcomes.

Under plausible refinements and assumptions, Fernandez-Arias obtains a closed-form solution for net transfers, dependent on various structural and policy parameters.

An analysis of comparative static results showed that:

- Fiscal constraints, not foreign exchange constraints, lead to smaller payments.
- Fast-growing countries get less favorable deals because they have less bargaining power.
- Investment disruptions as a result of default sanctions may work in favor of debtor countries, possibly leading to smaller payments, because of the associated cost to banks of future collections.
- Smaller countries, which are generally more open and specialized, can be expected to be stronger negotiators and to make relatively smaller payments.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to understand the economic relationships between developing countries and external creditors in the context of credit rationing and debt negotiations. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-040, extension 31047 (64 pages). October 1991.

779. Special Programme of Research, Development and Research Training in Human Reproduction

Janet Nassim

This highly regarded organization is one of the few engaged in contraceptive research and development that focuses on the needs of the developing world. The Special Programme of Research, Development and Research Training in Human Reproduction (HRP) merits the Bank's continued and expanded support.

The Special Programme of Research, Development and Research Training in Human Reproduction (HRP)— which began as a special program of the World Health Organization — is one of the few organizations engaged in contraceptive research and development that focuses on the needs of the developing world.

Nassim reviews the factors that led the World Bank to begin providing the organization with financial support in FY88 and examines the program's accomplishments and present direction.

Major evaluations of HRP strongly endorse the program, concluding that the program has had a major impact — the principal, if not the only impact, in many areas (such as coordinating world research efforts and developing new methods for regulating fertility).

The Bank's cosponsorship of HRP has strengthened the program's links with governments and facilitated its access to ministries outside the health field. The Bank's role is important to policy coordination and to sustaining donor commitment to the program.

The Bank's commitment of $2 million a year represents 10 percent of HRP's total funding. HRP has gained international respect, and its solid record of achievement justify the Bank's continued — and expanded — support.

This paper — a product of the Population, Health and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to provide information on activities in population, health, and nutrition assisted by the Bank under its Special Grants Program. Special Grants Programs support multi-country activities, complementing the Bank's direct lending operations. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31019 (13 pages). October 1991.

780. Optimal User Charges and Cost Recovery for Roads in Developing Countries

Ian G. Heggie and Vincy Fon

What impact do road user charges have on cost recovery? And when they fail to cover total costs, how should the resulting deficit be financed?

The optimal charge for road use is equal to variable costs for road maintenance, together with the costs road users impose on other road users and on the rest of society (usually confined to the costs of road congestion).

One persistent question raised about such charges is what impact they have on cost recovery. And when they fail to cover total costs, how the resulting deficit should be financed?

The theoretical literature argues that if there are constant returns to scale in road construction and in road use, the optimal user charge will recover the capital costs of the road network and the total expenditures on road maintenance. Empirical estimates for such a system of road user charges in Tunisia similarly suggest that they would generate twice the revenues currently spent on roads. It seems therefore that optimal road user charges would not only recover all costs but would

constribute substantially to general fiscal revenues.

Heggie and Fon examine these issues from both theoretical and practical perspectives. They conclude that there are substantial economies of scale in both road construction and road use. Also, road maintenance costs include a number of fixed costs that do not vary with traffic (up to half of annual expenditures on road maintenance are usually fixed). Moreover, since roads cannot be smoothly adjusted to traffic, marginal costs for the entire road network are significantly lower than average costs in most developing countries, unless capacity is artificially constrained by environmental or other constraints. Under these (realistic) conditions, optimal user charges result in a substantial financial deficit.

The question is, how should this deficit be financed?

On roads carrying heavy volumes of traffic, it is not economically efficient to bridge the financing gap by cutting back on maintenance. The gap has to be bridged by collecting the required revenues through user charges, or by mobilizing additional general tax revenues. But the costs of mobilizing additional general tax revenues are high and, given the generally low price elasticity of demand for roads, it is nearly always more economically efficient to collect the required revenues from road users.

It is generally agreed that marginal costs — corresponding to variable road maintenance costs — should be the floor below which user charges should never fall. But there is no reason to stop at marginal costs. An important group of costs are avoidable, attributable to individual groups of users (although not to the individual users themselves), and it seems reasonable — on grounds of simplicity, equity, and political expediency — to charge these costs against the appropriate user group.

The remaining costs, although also avoidable, are common to all users and, to minimize loss of consumer surplus, should be charged to them using the inverse elasticity rule (Ramsey pricing).

Heggie and Fon point out that there are significant differences between current user charges in Tunisia and the user charges calculated using the avoidable cost methodology described in this paper.

This paper — a product of the Transport Division, Infrastructure and Urban Development Department — is part of a larger effort in PRE to understand pricing, cost recovery, and efficient use of resources in transport. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Pam Cook, room S10-055, extension 33462 (50 pages). October 1991.

781. The Korean Consumer Electronics Industry: Reaction to Antidumping Actions

Taeho Bark

Antidumping actions by importing countries do not protect their own consumers. What protects domestic consumers is competition — and the wise choice of opening domestic markets to international competition. It is Korean consumers who are paying for the development of Korean industry, not consumers in the countries that import Korean goods.

A key element of Korea's industrial development strategy has been to maintain stringent import restrictions while promoting the development of a few large domestic firms. This strategy implies minimal competition in the domestic market, and allows Korean firms to maintain lucrative prices there. High profits from domestic sales give firms an important source of capital for investment. Across the economy as a whole, this policy strategy shifts the distribution of income from worker-consumers to entrepreneur-investors, helping to keep consumption low and investment high.

Korean companies have reacted to antidumping actions by lowering the prices they charge in Korea rather than by raising their export prices. Korean companies followed this course because they have significant market power in Korea but virtually no power to price other than competitively in any market open to international competition.

Specific concerns expressed by Korea's trading partners (notably the United States) have been complemented by internal pressures for a higher standard of living — for higher wages and lower import restrictions. The result has been to open the Korean market considerably to international competition.

But problems remain. First, the austerity program, introduced to deal with recent domestic macroeconomic problems and social concerns, created skepticism about Korea's commitment to liberalized trade policies. Second, Korean industrial groups, which own the major Korean producers of consumer electronics products, also own or control most of the retail outlets for consumer electronics and appliances. This distribution system dampens the effects of lowered import barriers and prevents Korean consumers from having access to the same variety and prices of goods as consumers in markets that are truly open to international competition.

Bark stresses two major lessons to be learned about antidumping policy. First, antidumping actions by importing countries do not protect their own consumers. What protects domestic consumers is competition — and the wise choice of opening the internal market to international competition. In the consumer electronics industry, the impact of U.S. antidumping actions has been to improve the situation of Korean consumers, with only minimal effect on U.S. consumers or producers.

There is a risk, however, that U.S. producers will push further, for negotiated export constraints. Such restraints would not only raise costs to U.S. consumers but, by removing the incentive for Korean companies to set lower prices at home, would impose a burden on Korean consumers as well.

Second, it is not consumers in the countries that import Korean goods who are paying for the development of Korean industry. Those consumers get what they pay for; there is little "excess" or "rent" in those prices. It is Korean consumers who are paying.

Finally, from the perspective of the exporting country, Bark strongly suggests the need to implement progressive import liberalization policies that will allow foreign competition in the Korean market. Import policy regimes in exporting countries have played a critical role in creating an environment that makes it possible for profit-maximizing firms to follow a price-discriminating marketing strategy. Progressive liberalization will eliminate the incentive for following such a marketing strategy as monopoly profits are slowly eroded.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the economics of the

emergence of "fairness" as a standard for regulating international trade, its implications for the continued openness of the international trading system, and its continued functioning as an important vehicle for development. This was funded by the research project on "Regulations Against Unfair Imports: Effects on Developing Countries" (RPO 675-52). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Nellie Artis, room N10-013, extension 37947 (21 pages). October 1991.

782. The Economic Effects of Widespread Application of Antidumping Duties to Import Pricing

Patrick Conway and Sumana Dhar

Simulation results provide a quantitative argument against the imposition of antidumping duties.

Conway and Dhar develop a model to address a theoretical issue: what is the impact of widespread dumping and the use of antidumping duties on the exporting and importing countries?

They take as their null hypothesis the typical response that dumping is an unfair trade practice and that appropriate antidumping duty restores outcomes obtained through fair trade (the predumping outcome). They compare that to the alternative hypothesis that antidumping duties do not eliminate the distortions to the world economy inherent in dumping behavior but rather introduce a protectionary distortion that can further reduce the welfare of trading partners.

After indicating analytically and through simulations the impact of dumping behavior and antidumping duty retaliation on exporting and importing countries, Conway and Dhar conclude that:

- The credible threat to impose antidumping duties promptly and in an amount equal to the dumping margin can dissuade exporting firms from undertaking dumping activity. But instances of dumping and the imposition of antidumping duties indicate that the duties have failed at that task.
- The imposition of antidumping duties does not have the impact often assigned to it — to offset completely the price impact of dumping and return the world economy to the predumping equilibrium. Rather, when imposed they act more as protective policies to insulate the import-competing sector from competition and as optimal tariffs to improve the purchasing power of all residents of the importing country. They do not end the dumping because they do not remedy the root cause: market segmentation and the difference in perceived price elasticity of demand in the two markets.
- Although dumping is undertaken by private firms, it cannot occur without the cooperation of the exporter government. Both segmentation of foreign from domestic markets and restrictions on entry of firms are necessary to assure the profitability of dumping. The former can be guaranteed through trade restrictions on the re-import of the dumped good; the latter may be a component of industrial policy. Removal of these preconditions will eliminate dumping.
- Antidumping quotas appear to be an attractive alternative to antidumping duties in attaining a fair trade outcome. In fact, they introduce the possibility of a third distortion in the world trading economy through their encouragement of collusion in the dumping sector, and are welfare-reducing in comparison with antidumping duties. Negotiated export restrictions have similar and in some cases more pronounced drawbacks.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the economics of the emergence of "fairness" as a standard for regulating international trade, its implications for the continued openness of the international trading system, and its continued functioning as an important vehicle for development. This was funded by the research project on "Regulations Against Unfair Imports: Effects on Developing Countries" (RPO 675-52). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Nellie Artis, room N10-013, extension 37947 (41 pages). October 1991.

783. The Origins and Evolution of Antidumping Regulation

J. Michael Finger

Antidumping is ordinary trade protection with a grand public relations program.

From the beginning, antidumping has been part of the rhetoric and mechanics of ordinary protection. The protectionist action is in antidumping because it is broad and flexible enough to handle all the action.

The magic of antidumping is how it harnesses the righteousness of trust-busting to propel the bureaucratics of customs valuation to restrict imports. Antidumping began as an extension of antitrust regulation, but only when enforcement became an application of customs valuation procedures did it become an effective weapon against imports.

In both theory and practice, antitrust is an instrument to defend the public interest. But antidumping is different. Free of the constraints that rule of law impose on antitrust, antidumping is an instrument that one competitor can use against another — like advertising, product development, or price discounting. The only constraint is that the beneficiary interest must be a domestic one and the apparent victim a foreign one.

Antidumping is the fox put in charge of the henhouse: trade restrictions certified by GATT. The fox is clever enough not only to eat the hens, but also to convince the farmer that this is the way things ought to be. Antidumping is ordinary protection with a grand public relations program.

The history of antidumping (presented in this paper) suggests that we pay tribute to the durability of an idea. The notion that underlies contemporary antidumping — that protection should bring the price of imports up to a level that would cover all production costs plus a reasonable allowance for profit — seems to be one for the ages. It inspired Canada's pioneering development of antidumping in 1904, the U.S. Congress's writing of the Smoot-Hawley Tariff in 1930, and it is today the potential foundation for Fortress Europe.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the economics of the

emergence of "fairness" as a standard for regulating international trade, its implications for the continued openness of the international trading system, and its continued functioning as an important vehicle for development. This was funded by the research project on "Regulations Against Unfair Imports: Effects on Developing Countries" (RPO 675-52). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Nellie Artis, room N10-013, extension 37947 (51 pages). October 1991.

784. Chemicals from Poland: A Tempest in a Teacup

Andrzej Olechowski

The Polish chemical industry has been the object of a disproportionately large number of antidumping cases — not because the industry dumps but because it is so easy to win an antidumping case against a socialist country's exports.

In the early 1980s, the Polish chemical industry got caught up in a battle waged by the European Community's chemical industry to preserve the EC market for itself. The Polish share of that market was very small, and the performance of the Polish companies did not depend on it, so they emerged from the battle unscathed.

But an aftertaste of the experience remained. Interviews with representatives of the companies involved indicate that their recollection of the antidumping investigations is vivid. Pressed for reasons, they said that what impressed them the most about the actions was the inconvenience associated with them, the burden of preparing explanations and reports for the Polish authorities, and the international aspect of the activities.

Perhaps the most striking finding of the study is what it tells us about the business ethics implicit in antidumping regulation. This ethic stresses collective behavior and the resolution of economic questions through political negotiation and compromise. The business behavior the antidumping rules attempt to impose on is in direct conflict with the antimonopoly laws — a basic part of the business ethics of a market system — but it fits well into the business ethics of a nonmarket economy. As an interface between the two systems, the antidumping rules teach the capitalists to behave like socialists — rather than to teach the socialists to behave as capitalists. No wonder the socialists came out well.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the economics of the emergence of "fairness" as a standard for regulating international trade, its implications for the continued openness of the international trading system, and its continued functioning as an important vehicle for development. This was funded by the research project on "Regulations Against Unfair Imports: Effects on Developing Countries" (RPO 675-52). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Nellie Artis, room N10-013, extension 37947 (26 pages). October 1991.

785. How Did the Asian Countries Avoid the Debt Crisis?

Ishrat Husain

Economic stability, sound macroeconomic policies, and appropriate microeconomic incentives hold down a country's external debt burden. Most of the Asian countries pursued prudent macroeconomic policies, paid attention to price stability, and minimized price distortions. These countries avoided the overvalued exchange rates and uncompetitive interest rates that caused massive capital flight from Latin American and some African countries.

If a country's macroeconomic policies are generally sound and microeconomic distortions minimal, sporadic episodes of overborrowing or inadequate attention to the terms, maturity, and currency composition of external debt will generally not make a difference in its debt picture.

But acts of indiscretion in external debt management tend to be magnified when those basic policies are inadequate. The recent upturn in Latin American economies — particularly in Chile, Mexico, and Venezuela, which are now successfully pursuing macroeconomic adjustment — supports the validity of these findings.

How did the Asian countries avoid the debt crisis? Husain answers that question partly by contrasting their behavior with that of 12 highly indebted Latin American and African countries studied by the Bank in the mid-1980s.

The Asian countries, with a few exceptions, pursued an outward-oriented strategy and prudent macroeconomic policies. They made quick adjustments to external shocks by switching expenditures, expanding exports, and curtailing consumption. Most borrowed and locally raised funds were invested in productive uses, improving the economy's ability to repay the debt. These countries relied heavily on domestic savings and resources to finance investments. They did not allow crises to drift or be aggravated.

In China, India, and Korea, investment rates were relatively high, financed mostly from domestic savings; foreign loans were use judiciously, as a complement to domestic savings. Foreign capital accounted for only 2 to 3 percent of GDP in these countries, although investment rates averaged 30 percent of GDP.

By contrast, the Latin American governments expanded external borrowings to offset the effects of external shocks. In Brazil, foreign resources were substituted for domestic savings to support an import substitution strategy; in Mexico, fiscal deficits were financed by external borrowing.

At the same time, the residents of these countries transferred billions of dollars abroad. Husain attributes this massive capital flight to overvalued exchange rates and uncompetitive interest rates. These were intended to curb inflation but instead eroded creditworthiness because of their depressing effect on exports and savings.

Argentina, Mexico, and Venezuela — which experienced the massive flight of private capital while they were stepping up external borrowing — courted trouble with debt servicing, because much of the borrowed money was not invested in high-return projects. That flight capital has begun to return to Mexico and Venezuela, both of which embarked on successful economic reform in 1987.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to understand the relationship between macroeconomic policies and external indebtedness of developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433.

Please contact Sheilah King-Watson, room S8-040, extension 31047 (26 pages). October 1991.

786. Fiscal Policy for Managing Indonesia's Environment

Sadiq Ahmed

Successful implementation of an environmental management strategy that balances regulatory and fiscal instruments will require strong political support and stronger institutions.

Indonesia has made substantial progress developing sound environmental management policies, but has concentrated largely on regulatory instruments, making limited use of fiscal policy.

Ahmed contends that fiscal policy can and should play a major role in improving the quality of Indonesia's environment. But a comprehensive environmental management strategy must be based on a balance between regulatory and fiscal instruments.

Successful implementation of this strategy will require strong political support and continuous efforts to improve the country's institutional framework.

This paper — a product of the Country Operations Division, Country Department V, Asia Regional Office — is part of a larger effort in the World Bank to study appropriate policies to improve environmental management in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Boonsri Prasertwaree, room A10-047, extension 82477 (34 pages). October 1991.

787. Private Investment Under Macroeconomic Adjustment in Morocco

Klaus Schmidt-Hebbel and Tobias Muller

Fiscal stabilization, a consistent foreign debt policy, more investment in public infrastructure, and a reform of investment codes would increase private investment and growth in Morocco. And reform of the financial sector, by making financial intermediation more efficient, could improve the quality of investment.

A significant domestic counterpart of Morocco's vigorous external adjustment in the eighties was a decline in fixed capital formation, of which the private sector bore a sizable share.

Schmidt-Hebbel and Muller focus on the causes of declining private investment and on the policies required to reverse this trend. Using an eclectic framework, they econometrically determine the main determinants of private investment in Morocco.

They conclude that the main causes of the decline of private investment in Morocco in the eighties were great uncertainty about policy (proxied by foreign debt), a rapid rise in the cost of capital, a more stringent credit policy, and reduced public capital.

They further conclude that fiscal stabilization, a consistent foreign debt policy, more investment in public infrastructure, and a reform of investment codes would increase private investment and growth in Morocco.

Moreover, reform of the financial sector — even if it would not necessarily increase total resources available for investment — could significally improve the efficiency of financial intermediation and therefore the quality of investment in Morocco.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to understand the behavior of private investment in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Susheela Jonnakuty, room N11-039, extension 39074 (40 pages). October 1991.

788. How Expectations Affect Reform Dynamics in Developing Countries

Francesco Daveri

Bold moves were effective in trade reform in Chile, Turkey, and Venezuela. But discredited governments, in countries with a history of policy failure, are probably better off sending no signals of policy reform and approaching it in small, cautious steps.

Reform is often flawed by delayed implementation and, after initial acceptance, sudden reversals in public reaction. In recent years, many attribute these delays and reversals to reform dynamics because reform, particularly when comprehensive, rarely takes place all at once. In designing reform, it is important to determine what the best sequence of reform would be, under what conditions that sequence is feasible, and how expectations will affect the success of alternative reform strategies.

In the literature on second-best reform strategies, misperceptions about the prospective costs and benefits of reform add another intertemporal distortion to the many already identified.

Bold moves — such as preannounced institutional changes — are often suggested as a way to signal the beginning of a new policy regime. Daveri advocates a more cautious approach when a government has been discredited by a history of policy failures.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to understand the transition in reforming economies. It was funded by a research project on "Managing the Transition in Adjustment Programs" (RPO 675-70). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Susheela Jonnakuty, room N11-039, extension 39074 (46 pages). October 1991.

789. Intrahousehold Inequality and the Theory of Targeting

Lawrence Haddad and Ravi Kanbur

Here is a start at linking the literatures on targeting and on intrahousehold inequality which have developed rapidly but largely independent of each other.

The two literatures on targeting and on intrahousehold inequality have developed rapidly over the past 15 years, but largely independent of each other.

The literature on targeting concerns itself with the design of tax and transfer programs for poverty alleviation in the presence of limited information on who the poor are.

The literature on intrahousehold inequality arose out of a dissatisfaction with

"unitary" models of the household, especially in explaining inequality in consumption and achievements of different household members, even after allowing for relevant differences among them.

Haddad and Kanbur begin to forge the link between the two literatures, so they can address issues policymakers face around the world. After a brief reprise of the key features of the two literatures, they indicate how the presence of intrahousehold inequality and allocation mechanisms could affect the standard analysis of targeting theory. They conclude with a list of policy questions for further research, including the following:

- How are conventional rules for indicator targeting modified by different household allocation mechanisms?
- How far wrong can one go in targeting by simply assuming that intrahousehold inequality does not exist, when in fact it does?
- What sort of intrahousehold information should be collected to best aid targeting?
- How do the "bargaining" versus the "common preference" views of the household influence our evaluation of alternative transfer programs?

This paper — a product of the Research Advisory Staff, Office of the Vice President, Development Economics — is part of a larger effort in PRE to understand the design of poverty alleviation policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Jane Sweeney, room S3-026, extension 31021 (13 pages). October 1991.

790. Reforming and Privatizing Hungary's Road Haulage

Esra Bennathan, Jeffrey Gutman, and Louis Thompson

Options for restructuring the Volán group — the current provider of Hungary's public passenger and freight transport services and the largest enterprise in Hungary's road transport industry.

Hungary's road transport industry emerges from decades of socialist organization with a few large public sector enterprises, highly integrated in terms of spatial coverage and range of operations, and thus singularly lacking in the division of labor and the specialization that characterize the road transport business in market economies. Volán, the main national transport organization, combines subsidized passenger transport with every type of public road haulage. Other large enterprises specialize in international haulage or serve the transport needs of specific branches of the economy. Also, state enterprises in industry and trade have their own trucks and use them for work that overlaps with the operations of the public haulage organizations. But outside the public sector there now exists a substantial sector of small-scale private trucking businesses. The private truckers work for but also compete with the large state-owned transport organizations. Competition, intensified by the decline of the economy, has given rise to insistent demands for regulatory control of market entry and access.

In the first sweep of postcommunist reform, the main public sector road transport organizations were broken down into their constituent provincial branches. The successor entities were to operate henceforth as autonomous firms. But the crucial ownership relation remained obscure and ambiguous. No clearly defined owner came to determine the firms' objectives. The managerial objective was therefore to protect the position of manager and staff by maintaining the status quo for each enterprise. The incentive to restructure the entities to maximize their net worth was therefore lacking. But restructuring of many of the units seems essential if they are to function viably in a competitive market economy. The separate units are unusually large by the standards of Europe's market economies, are encumbered with functions and assets or properties that are irrelevant to normal trucking activity, and are uneconomically diversified in their work.

Bennathan, Gutman, and Thompson explore the options for reforming this industry, which is peculiarly suitable for small and medium scale entrepreneurship but also peculiarly subject to stringent regulation. The first element in any reform has to be the establishment of unambiguous ownership and the assertion of control by or for the owner. That is a precondition for privatization and for adapting state-owned entities to market requirements. Questions about the pace of privatization in different forms are more controversial. The authors' recommendations are intended to reduce the risk that wholesale disposal of haulage enterprises of doubtful viability will later generate strong pressures for protective regulation and bail-outs. They suggest:

- Basically restructuring the Volán group by separating passenger transport completely from freight haulage.
- Adopting a program of staged privatization, starting with the outright disposal of a target number of entities with fair prospects of commercial survival.
- Helping commercialize all state-owned entities under the control of a separate office (preferably a private specialist consultancy) combining trustee functions with technical, accounting, and legal guidance, and subjecting the entities to the discipline of financial targets.
- Actively promoting the sale of haulage assets from the state-owned entities to middle-class and typically small-scale entrepreneurs.
- Getting the government committed to a liberal system of road haulage regulation (operator licensing) and to maintaining open, competitive access to operations in international haulage.

This paper — a product of the Transport Division, Infrastructure and Urban Development Department — is part of a larger effort in PRE to analyze the options for restructuring and privatizing state-owned enterprises in the countries of Central and Eastern Europe. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Barbara Gregory, room S10-049, extension 33744 (28 pages). October 1991.

791. Measuring Real Exchange Rate Instability in Developing Countries: Empirical Evidence and Implications

Lant Pritchett

The historical evolution of the real exchange rate in most LDCs, with periods of gradual appreciation followed by massive depreciations, implies that the standard variability measures are not valid for comparing real exchange rate uncertainty across countries.

Exchange rate policy has received renewed attention because of its prominent role in adjustment programs. Several analysts

have examined the impact of real exchange rate uncertainty on the performance of such economic variables as GDP growth, exports, and investment.

Pritchett uses data on the real exchange rate for 56 developing countries with managed exchange rates to make three points:

- The distribution of annual changes in real exchange rates is highly non-normal — both skewness and excess kurtosis (increased probability of tail events).
- This asymmetric non-normality implies that the common practice of using the standard deviation (or coefficient of variation) to compare real exchange rate uncertainty across countries is not justified.

Empirically, the higher order moments (skewness and kurtosis) are at least as important as the standard deviation in explaining cross-country performance.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to examine the implications of exchange rate policy for economic performance. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Karla Cabana, room N10-037, extension 37947 (26 pages). October 1991.

792. Reducing Labor Redundancy in State-Owned Enterprises

Jan Svejnar and Katherine Terrell

The severity of labor redundancy has been underestimated because of difficulties in conceptualizing the issue and finding politically acceptable solutions. Schemes to reduce labor redundancy can decrease the wage bill significantly and allow fairly high compensation to the employees laid off yet still allow the government to recoup its costs in a relatively short time.

The growing effort to reduce large public deficits and to increase welfare by improving the efficiency of resource allocation is leading many governments to concentrate on the problem of sizable, costly labor redundancy in the public sector. The existence of such redundancy has been acknowledged but its severity has been underestimated. And its effect on the budget is significant, as the wage bill is usually the largest component of the public budget.

Svejnar and Terrell focus on what determines labor redundancy in selected modes of transport (rails, ports, and buses) in six countries: Brazil, Chile, Ghana, Mauritius, Sri Lanka, and Yugoslavia. They also analyze different approaches for solving the problem.

They conclude that analysis of the labor redundancy problem in public transportation enterprises has been neglected because conceptually it is not a simple, easily identifiable phenomenon and because its treatment is often politically controversial, as it affects social welfare. Governments tend to approach the problem only when circumstances are extreme (budget stress or near-complete breakdown of the transport system). Solutions are then hammered out in a tense environment, with no longer-term vision of the optimal employment and pay practices.

The first step in designing a scheme to reduce redundancy is to be clear about what the optimal pay and employment policies are in a given system and environment. Svejnar and Terrell discuss some of these policies and the tradeoffs involved.

They also present a framework for identifying labor redundancy within different countries whose social welfare functions vary in the relative weight given to efficiency and equity. They give a rule of thumb for identifying labor redundancy where the government's main goal is maximizing GNP. They show that the private and social assessments of labor redundancy can differ substantially and that the private assessment is not always the appropriate measure.

They show that redundancy-reduction schemes can have a high rate of return and still be socially acceptable. Long-term savings on the wage bill can be high enough that compensation to employees laid off can be set fairly high and still allow the government to recoup its costs in a relatively short time.

But cash flow problems may necessitate the assistance of international donor agencies. Attention must be paid to how this compensation is administered, as it can make a difference to the workers' welfare.

This paper — a product of the Transport Division, Infrastructure and Urban Development Department — is part of a larger effort in PRE to analyze issues relating to enterprise reform. This is part of a research project on "Labor Redundancy in the Transportation Sector" (RPO 675-21), funded by the World Bank's Research Support Budget and by the Transport Division, Infrastructure and Urban Development Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Barbara Gregory, room S10-053, extension 33744 (47 pages). October 1991.

793. Decollectivization and the Agricultural Transition in Eastern and Central Europe

Karen M. Brooks

An agricultural transition when demand is constrained is more difficult to manage than when the fruits of institutional change and productivity growth find ready outlets. Any progress on the demand side — by increasing domestic demand or improving performance in export markets — will give a major impetus to the institutional changes needed on the supply side.

The agricultural transition in Eastern and Central Europe is about a year and a half old, if we date its start from the Polish big bang of January 1990. Like many a recalcitrant toddler, it refuses to behave as expected.

The agricultural transition is an essential part of stabilization and adjustment in Eastern and Central Europe because agricultural sectors are large and food is important. But the transition is not the storybook variety. Agricultural producers cannot spin collectivized straw into market-oriented gold and deliver it in the morning to the minister of finance. The supply response that many within and outside the region expected to emerge early and expeditiously is complicated by the removal of consumer subsidies and constrained export demand.

In an atmosphere of acute economic uncertainty and declining farm incomes, the distribution of agricultural land is proceeding. Brooks traces the liberalization of food prices and the distribution of agricultural land to date. A detailed exposition of the general framework for the agricultural transition describes the context in which price liberalization and the

distribution of land can be understood. Changes in land tenure and use in Eastern and Central Europe in 1991 cannot be properly understood out of context. The essence of the agricultural transition is the state's withdrawal from its traditional role as residual claimant of (positive and negative) rents for the use of agricultural resources. This role will pass in stages to owners of land. A discussion of the new land laws and distribution of land would be incomprehensible without attention to conditions that shape the value of land and the income that owners can earn from it.

The countries of Eastern and Central Europe operated under a common ideology in the past, but within bounds set by that ideology they exhibited significant differences in agricultural policy and farm organization. To draw lessons that transcend those particularities, Brooks creates a stylized country with the general features of each and the uniqueness of none. She takes that stylized country though an agricultural transition, indicating how the initial conditions affect the path of transition.

She concludes that an agricultural transition when demand is constrained is more difficult to manage than one in which the fruits of institutional change and productivity growth find ready outlets. Moreover, although price movements are not yet clear, it appears that removing subsidies on feed, credit, fertilizer, machinery, and energy will move the terms of trade against agriculture — particularly against the large livestock sector. The need to increase productivity will thus be even greater than in the past.

Productivity growth will be difficult to achieve if demand is constrained. Any progress on the demand side — by increasing domestic demand or improving performance in export markets — will thus give a major impetus to the institutional changes needed on the supply side.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to analyze changes in Eastern and Central European agriculture. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Cicely Spooner, room N8-037, extension 30464 (40 pages). October 1991.

794. How Do National Policies Affect Long-Run Growth? A Research Agenda

William Easterly, Robert King, Ross Levine, and Sergio Rebelo

Which policies strongly affect long-run growth? Do policies explain why some poor countries have stagnated and others have advanced? Do policies explain successive periods of rapid growth and stagnation in the same country? To what extent do national policies — rather than external influences — explain the stagnation of many countries in Africa, Latin America, and Asia in the 1980s?

The broad forces behind economic growth — accumulation of produced factors, specialization, economies of scale, and externalities — were sketched out by the classical economists long ago. These same forces have been used in the development literature to study various aspects of economic growth. By building on the insights of growth and development economists, the "new" theoretical literature on growth is also contributing models that identify specific channels through which national policies may affect long-run growth rates. But the empirical work on linking national policies to growth is still evolving, and many basic issues about the long-run relationship between policy and growth remain unresolved. Among these issues: the effects on growth of government size, trade policy, international capital flows, the allocation of public spending, and the financing of public spending.

Easterly, King, Levine, and Rebelo suggest that there are important opportunities to empirically evaluate the theoretically predicted channels from policy to growth. They contend that researchers should improve the design of cross-country studies of growth and should conduct more detailed longitudinal case studies.

Easterly, King, Levine, and Rebelo propose a research agenda based on the endogenous growth literature, designed to address the questions: How do national policies affect long-run growth? Which policies strongly affect long-run growth? Do policies explain why some poor countries have stagnated and others have advanced? Do policies explain successive periods of rapid growth and stagnation in the same country? To what extent do national policies — rather than external influences — explain the stagnation of many countries in Africa, Latin America, and Asia in the 1980s? They discuss five national policies:

- *Fiscal policy.* What are the growth effects of different types of taxes and public spending (for example, how do those that affect consumption compare with those that affect investment)? Does fiscal mismanagement create uncertainty that reduces growth?
- *Monetary policy.* Do countries with high inflation tend to grow more slowly? Does the variance of monetary growth and inflation matter for growth?
- *Trade intervention.* Do distortionary interventions (tariffs and quotas) in foreign trade affect growth or do they have only one-time level effects? Does instability in trade and exchange rate policy affect growth?
- *Financial policies.* Do penalties on domestic financial intermediation affect growth? How strong are the effects on growth through lower investment and those through inefficient allocation of investment?
- *Openness to foreign capital.* How do restrictions on direct foreign investment affect growth?

Their analytical framework is based on the simple idea that all factors of production can be increased by investing in human or physical capital. Economic growth will be related to policies that affect the incentive to invest and the efficient use of capital and intermediate inputs. Such a framework can be used to consider which policies affect the long-run growth rate rather than affecting simply the level of income once and for all.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to assess the effect of national policies on long-run growth. This research was funded by the World Bank's Research Support Budget under research project "Do National Policies Affect Long-Run Growth?" (RPO 676-66). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Rebecca Martin, room N11-053, extension 39065 (60 pages). October 1991.

795. Economic Stagnation, Fixed Factors, and Policy Thresholds

William Easterly

Economic policies, not initial conditions, determine whether countries stagnate. The black market premium on foreign exchange is an important factor in stagnation.

Many developing countries have experienced economic stagnation. Africa had negative per capita growth in the 1970s and 1980s, and Latin America in the 1980s. Per capita growth was significantly greater than zero only in 41 of 87 developing countries in 1950-85, but it was significantly positive in all OECD countries.

Analysis of decade-long growth rates in all countries shows a striking regularity: Episodes of rapid growth are limited largely to a middle range of initial income; neither very poor nor very rich countries experience rapid growth. Episodes of negative growth are limited to low and middle-income countries.

Easterly develops a simple model that sheds light on this historical experience. The model has two familiar elements from the growth literature: (1) a Stone-Geary utility function (saving is low at low incomes), and (2) fixed factors with the marginal product of capital bounded away from zero. The second property is derived by assuming an elasticity of substitution greater than one between an exogenous labor input and a broad concept of capital. Easterly extends the model to consider multiple capital goods and public capital.

He finds that stagnation because of fixed factors is consistent with an array of statistical evidence. Economic policies — not initial conditions — determine whether countries stagnate. The black market premium on foreign exchange is particularly helpful in explaining stagnation.

Empirical results show that growth first accelerates and then falls as income rises. Results confirm that initial income and policy variables have a different effect on whether a country stagnates than they do on the rate of growth once it starts growing, as expected from the distinction between steady-state and transitional effects.

These results suggest that cross-section growth regressions may be misspecified because of the nonlinearity inherent in the possibility of steady-state stagnation.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to assess the effect of national policies on long-run growth. This research was funded by the World Bank's Research Support Budget under research project "Do National Policies Affect Long-Run Growth?" (RPO 676-66). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Rebecca Martin, room N11-053, extension 39065 (39 pages). October 1991.

796. Excess Liquidity and Monetary Overhangs

Gerard Caprio, Jr. and Patrick Honohan

It may be inappropriate to tighten money in response to excess liquidity in developing economies and to money overhang in the constrained reforming socialist economies. Instead, the best policy is to address the root causes: deficient information and thin money markets in banking systems of the developing world and rationed goods markets in the reforming economies.

The term "excess liquidity" may refer to the share of liquid assets in bank portfolios (the result of a retrenchment in bank lending, or a "credit crunch") or to money holdings of the nonbank public. Excess liquidity may be voluntary or nonvoluntary (the result, for example, of credit ceilings).

In response to excess liquidity, policymakers tend to take steps to drain off the excess so it won't lead to a surge in inflation. This response is ineffective in some circumstances.

Caprio and Honohan examine the appropriateness of conventional policy instruments for tightening money in two common cases: (1) when there is a voluntary credit crunch because of a rise in perceived risk of default, and (2) when individuals rationed in the goods market in reforming socialist economies accumulate savings involuntarily ("money overhang").

They conclude that neither excess liquidity in the banking systems of the developing world (and in the U.S. post-savings-and-loan crisis) nor the money overhang of the reforming planned economies calls for a response of restrictive monetary policy.

More important is an understanding of the main underlying causes: deficient information and thin money markets in banking systems of the developing world and rationed goods markets in the reforming economies. Structural reform is the appropriate response in both cases.

In reforming socialist economies, the monetary overhang in the household sector may be quickly transformed into excess liquidity in the banking system, so much so that relatively inexperienced bankers may demand substantial collateral and may pull back from lending in a risky environment characterized by poor information. This reaction would leave the economy in a "low-lending" trap and could seriously impede development of the private sector.

A more appropriate policy might be a prudent but not overly restrictive monetary policy and reservation of some part of credit for the emerging private sector.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in the Bank to understand the link between monetary policy and financial sector development. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Wilai Pitayatonakarn, room N9-003, extension 37666 (21 pages). October 1991.

797. Using Field Visits to Improve the Quality of Family Planning, Health, and Nutrition Programs: A Supervisor's Manual

Richard Heaver

A manual to help supervising staff find out what is really happening in the field, in a way that supports health workers and focuses on improving the quality of service to the poor.

Most health professionals who have worked in rural areas have had the experience of being supervised badly: the flying visit by a superior who inspects the records, delivers a critical speech, and disappears without ever finding out what is really going on in the health center area. Such visits seem designed more to demonstrate the supervisor's authority than to help the field worker to serve local people better.

This manual is designed to help field supervisors supervise in a way that deepens insights into local situations, supports health workers, and focuses on improving the quality of service to the poor.

The checklist of questions is not intended to be definitive or rigidly applied. Depending on the needs of a given program, some areas may need to be probed more deeply, and others shortened or omitted altogether.

Heaver provides guidelines for planning (a first visit and subsequent) visits to a program area; for visiting villages and talking with mothers; for visiting health care workers; for visiting nutrition workers; and for using findings to make changes in program design or implementation, to reorient the way supervision is done, and to change worker behavior. He also provides a sample field visit report.

This paper is a joint product of the Population, Health, and Nutrition Division, Population and Human Resources Department and the Population and Human Resources Division, Technical Department, Asia Regional Office. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (20 pages). October 1991.

798. Agriculture's Decline in Indonesia: Supply or Demand Determined ?

Will Martin and Peter G. Warr

Capital accumulation and rapid technical change in agriculture are each found to contribute much more to the decline in agriculture's share of GDP than do the relative price effects typically emphasized in the literature on agriculture's decline. From the results, increased attention to supply-side influences on the process of structural transformation appears warranted.

Agriculture's share in an economy invariably declines as per capita income rises and as the economy develops. This relative decline in growing economies is a central feature of economic development and a major influence on agricultural policies. The literature on its causes has focused on the relative price effects arising from demand factors — especially Engel's Law (that the proportion of income spent on food declines as incomes rise) — rather than on such supply-side influences as changes in relative factor endowments and different rates of technical change.

Engel's Law is convincing at the global level but it does not explain why agriculture's share should decline sharply in small open economies that experience rapid economic growth. A small open economy that grows rapidly need not reduce agriculture's share in production. Instead, it could increase its exports of agricultural products as food becomes less important in domestic consumption.

Martin and Warr develop a simple structural model of the transformation of the Indonesian economy, applying the Error Correction Mechanism to capture the dynamics resulting from disequilibria and costs of adjustment. They develop an econometric model of the economy's supply side so they can explain agriculture's decline by the three theoretical factors: relative price changes, technical change, and factor accumulation.

Based on the model's results, they conclude that the decline in the relative price of agricultural output contributed relatively little to the decline in agriculture's share. Technical change actually had a positive effect on agriculture's share, retarding the pressures for a decline in its share over time. By far the most important influence appears to have been the rapid accum-ulation of capital relative to labor over the period studied (1960-87).

These results have important implications for the way economists view the process of structural change under economic development. The emphasis has been on demand-side factors. Supply-side factors may be far more important than economists have believed them to be.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in the Bank to analyze the process of growth and transformation in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Maria-Theresa Sanchez, room S7-075, extension 33731 (19 pages). October 1991.

799. Growth in Open Economies

Sergio Rebelo

A simple modification of recent growth models eliminates the implausible implication that growth rates should be equalized in the presence of free international capital mobility and is consistent with evidence that points to low rates of savings in low income countries.

Rebelo surveys recent growth models that try to explain the diversity among countries in rates of economic growth.

He finds that these models can generate differences in growth rates only in the absence of international capital markets. Under these models, if there were free international capital mobility, the growth rate of consumption and GNP would quickly be equalized all over the world.

Rebelo describes a simple modification of standard preferences that eliminates this implausible equalization of growth and is consistent with the fact that the savings rate is lower in poor countries than in rich countries.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in the Bank to understand why growth rates differ. This research was funded by the World Bank's Research Support Budget under a preparation grant for the since-approved research project "How National Policies Affect Long-Run Growth?" (RPO 676-66). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Rebecca Martin, room N11-043, extension 39065 (54 pages). November 1991.

800. The Legal Framework for Private Sector Development in a Transitional Economy: The Case of Poland

Cheryl W. Gray, Rebecca J. Hanson, Michael A. Heller, Peter Ianachkov Daniel T. Ostas, and Youssef Djehane

Poland is rapidly developing a reasonable legal framework to support its transition to a market economy. Yet legal practice lags behind. Precedent and expertise must be built through training and experience.

The economies of Central and Eastern

Europe are in the midst of a historic transition from central planning and state ownership to development of a market-driven private sector. This transition requires comprehensive changes in "rules of the game" — including the legal framework for economic activity.

A market economy presupposes a set of property rights and a system of laws or customs that allow the exchange of those rights. The legal framework in a market economy has at least three basic functions:

- Defining the universe of property rights in the system.
- Setting the rules for entry into and exit from productive activities.
- Setting the rules of market exchange.

These legal tasks are accomplished by such fundamental areas of law as:

- Real and intangible property rights.
- Company, foreign investment, and bankruptcy law.
- Contract and competition law.

Poland has a rich legal tradition dating from pre-socialist times. This tradition was suppressed but not eliminated during its forty years of socialism, and it is being revised as the country moves toward a private market economy. The current legal framework in Poland closely follows other continental jurisdictions and has a clear and reasonable internal logic. Many of the laws (including the civil code, the commercial code, and the bankruptcy law) are old, but most are flexible enough to permit a wide range of modern, market-oriented activity. Recent legislation (including the antimonopoly, securities, and foreign investment laws) appears to be well-designed for private sector development. Property law, however, remains a "jungle."

Although the legal structure is generally satisfactory in most areas, practice is still very uncertain. The generality of the laws leaves wide discretion for administrators and courts, and there has not yet been time to build up a body of cases and practice to define further the rules of the game. The wide discretion and general lack of precedent create tremendous legal uncertainty that is sure to hamper private sector development. The answer is not a change in the law, but a building of precedent and expertise through training and through dissemination of information.

This paper — a joint product of the Socialist Economies Reform Unit and the Legal Department's Private Sector Development Advisory Group — is part of a larger comparative study in PRE of evolving legal frameworks in Eastern Europe. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. November 1991.