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Volume I

Numbers 1 – 100

1. Imports Under a Foreign Exchange Constraint

Cristian Moran

To estimate how adjustment packages will affect the flow of imports, policymakers need to look beyond the traditional explanatory variables of GDP and real import prices. They must focus in addition on the availability of foreign exchange.

The traditional model of import behavior — which looks only at GDP and real import prices as explanatory variables — failed to predict or explain the developing countries' import slumps in the early 1980s. It works well for industrial countries, unconstrained by foreign exchange. But it does not work well for the typical developing country, short of foreign exchange.

Hence, the search for a better model — a model more useful for developing country policy analysis. Hemphill introduced the availability of foreign exchange, measured by international reserves and foreign capital inflows, as a lone set of explanatory variables. This paper goes a step further and adds the traditional variables, prices and GDP, to international reserves and foreign capital inflows. The four variables together do a better job of predicting import responses — better than each of the two individually.

So, when putting an adjustment package in place, policymakers need to estimate how the availability of foreign exchange will affect the flow of imports. The focus is important because the policies that affect the availability of foreign exchange range more broadly than do policies affecting aggregate demand (contractionary fiscal and monetary policies and exchange rate policies). In addition to actions influencing aggregate demand and prices, the broader policies include those:

- To increase the export supply response.
- To keep international markets open to developing countries (that is, to reverse protection in industrial countries).
- To increase capital inflows, both official and private.

In sum: policy makers must look at the policies that affect GDP *and* prices *and* the availability of foreign exchange when trying to estimate import behavior in developing countries.

This paper is a product of the Trade Policy Division, Country Economics Department. Please contact Karla Cabana, room N10-037, extension 37946.

2. Issues in Adjustment Lending

Vinod Thomas

Three major issues have emerged from adjustment lending. One is translating adjustment policies into improved economic performance. The second is reconciling policy reforms with changing external conditions. The third is coordinating the adjustment process itself — coordinating the efforts of all the interested parties, inside and outside the country. In relation to each of these issues, expanding the menu of policy options could make adjustment packages more credible and effective.

Reaping the full benefit of adjustment packages depends on a government's commitment to reform as well as a variety of complementary factors, many of which have not been duly considered because of the lack of time, resources, and skills.

Most policy packages have focused on adjustment in the following areas: (1) fiscal and investment policy, (2) exchange rate and trade reform, (3) industrial regulation, (4) agricultural pricing, (5) financial liberalization, and (6) institutional development. No small task. Meanwhile, concerns have been voiced that too much is being attempted — or, where sociopolitical issues are ignored, too little.

It is becoming increasingly clear that if these packages are to be more effective and credible, the menu of policy options might be expanded in three areas. One is translating adjustment policies into improved economic performance — the objective of domestic strategy. The second is reconciling policy reforms with changing external conditions to get the most from the external strategy. The third is improving the process of adjustment itself. So, an already onerous set of tasks has to become even broader — or, better, more focused.

Linking policies to performance. Although the links among policy change, funding, and economic returns might seem clear, identifying them in practice is complex. Efforts to clarify the expected effects of policy on performance should continue. There nevertheless are practical difficulties, some of them unpredictable. A country's policies may improve, but the financing to carry them out may be inadequate. Also influencing the effectiveness of reforms are their credibility and sustainability — as well as an array of complementary policies and nonprice considerations.

Getting the most from the external strategy. Much of the Bank's intellectual and financial effort has supported an outward orientation and market liberalization. But confusion remains over what these changes really mean, about what is really being sought, and about how much is being reformed. Needed now is a clearer understanding of the respective roles of domestic policy and external factors in increasing trade and accelerating growth.

Improving the adjustment process. Preparedness for the reforms has been important for their implementation and sustainability. Timely financing for the adjustment package has also been a key to acceptability. Building a domestic consensus, essential to sustaining stabilization and adjustment efforts, requires commitment and the ability to experiment. Providing adequate finance requires coordinated rather than fragmented efforts by donors, commercial lenders, and the respective governments.

In sum: more attention needs to be placed on the commitment to price reforms and on nonprice areas. Support might also increase for the outward orientation of countries — if discussions are extended to consider external factors and if nondistortionary ways of promoting domestic production are explored. In addition, governments must do more to build a consensus for the reforms — and the external financing community must increase its flexibility in supporting those same reforms.

This paper is a product of the Trade Policy Division, Country Economics Department. Please contact Karla Cabana, room N10-037, extension 37946.

3. CGE Models for the Analysis of Trade Policy in Developing Countries

Jaime de Melo

Simulation models with strong microeconomic underpinnings are being used increasingly in quantifying the implications of alternative trade policy scenarios in developing countries. Presented here are seven models whose modifications enable useful applications to trade policy and external balances, and to growth.

The use of computable general equilibrium (CGE) simulation models for policy analysis has become widespread. In the industrial countries they have generally had a microeconomic focus because economywide policy analysis can rely instead on econometric techniques. But such techniques are not well suited to economywide analysis in developing countries, for three reasons: (1) the lack of time series data, (2) the need to remove inconsistencies from data that are available, and (3) the short time that big changes in policy leave for testing hypothesis. So, simulation models relying on "borrowed" parameter estimates have been used for a wider range of applications in developing countries.

This survey starts with a presentation of the core structure of simulation models for trade policy analysis. It shows that a few share parameters and elasticities, leading to a four-way sectoral classification: exportables, importables, nontradables, and import-dependent sectors. The rest of the survey deals with a range of applications derived from this core model.

Applications to trade policy

Three of the models are modifications of static one-period models:

- *Model 1.* Measuring the costs of protection in a regime of quantitative restrictions characterized by rent-seeking.
- *Model 2.* Measuring the costs of protection when there are economies of scale in some sectors and a restrictive trade policy impedes entry by new firms and allows incumbents to price above average cost.
- *Model 3.* Designing optimal trade policies when budgetary revenue is constrained and fiscal authorities cannot resort to direct taxation because of a weak fiscal system.

Applications to internal and external balances

Three others are modifications of dynamic models that treat intertemporal linkages recursively:

- *Model 4.* Decomposing the causes of a balance-of-payments crisis and comparing the results with purchasing power parity calculations.
- *Model 5.* Determining what an exchange rate in temporary disequilibrium means for the current account.
- *Model 6.* Determining what alternative foreign trade strategies might mean for long-run growth.

Applications to intertemporal issues

The seventh model is a modification that goes beyond intertemporally decomposable growth paths to show the determinants of intertemporal substitution in a two-period, two-sector dependent economy.

- *Model 7.* Determining the optimal borrowing strategy for a country that faces external borrowing constraints linked to its fiscal position.

These economywide simulation models are good tools for quantifying the tradeoffs in policy packages that the Bank discusses with its clients. Future modeling exercises would nevertheless benefit from direct econometric estimates rather than "borrowed" parameter estimates.

This paper is a product of the Trade Policy Division, Country Economics Department. Please contact Karla Cabana, room N10-037, extension 37946.

4. Inflationary Rigidities and Stabilization Policies

Miguel A. Kiguel and Nissan Liviatan

A tight fiscal stance can stop episodes of hyperinflation. But it cannot, on its own, overcome the inertia of rising prices in countries suffering chronic inflation. Such countries can nevertheless strengthen their stabilization efforts by anchoring nominal prices to the money supply or the exchange rate.

Orthodox stabilization policies — those based on a tight fiscal stance — are very effective to stop hyperinflation, as in Bolivia in 1985. Wage and price inertia are eliminated through the process of hyperinflation, while the unsustainability of the process makes a serious stabilization program credible.

The orthodox approach has been less successful in chronic inflation countries. We distinguish three types of orthodox stabilization programs all of which include a tight fiscal stance. The first one is based primarily on the fiscal adjustment, as was the case in Brazil and Mexico in the early 1980s. We argue that this approach is ineffective in dealing with inflation, especially when undertaken in the midst of a balance of payments crisis. The second type includes a money crunch (as in Chile and Argentina in the mid-1970s), and the third uses the exchange rate as the main nominal anchor (as in the "Tablitas").

Disinflation during these experiences has at best been slow, and in some cases inflation accelerated during the stabilization programs. Price inertia, and lack of credibility created insurmountable difficulties that led in many cases to the abandonment of the program.

Persistence and discipline, however, can make the orthodox approach succeed. The Chilean experience is useful in this respect. More than a decade of fiscal restraint, and a consistent use of different nominal anchors eventually achieve stable low inflation. There were also the drawbacks of low average growth and severe crisis along the way. We conclude arguing that "heterodox" programs might provide a suitable alternative.

This paper is a product of the Debt and Macroeconomic Adjustment Division, Country Economics Department. Please contact Miguel A. Kiguel, room N11-059, extension 37464.

5. Comparisons of Real Output in Manufacturing

Angus Maddison and Bart van Ark

International comparisons of real output and productivity should rely not on official exchange rates but on standardized valuations of the different elements of output.

The most direct way of comparing output in different countries is to use the official exchange rate to convert GDP in one country's price into the price of another country — and in multicountry comparisons to convert it into a common currency,

such as the U.S. dollar. But exchange rates mainly indicate the purchasing power of currencies over tradables, not the average purchasing power of currencies over all goods and services. And even for tradables, the use of exchange rates is problematic because of currency fluctuations and capital movements.

With the measurement of comparative real output across countries intertwined with assessments of purchasing power, the question becomes: what is the best way to make those assessments. Most purchasing power parities have been developed for the components of final demand — for consumption, investment, and so on. This expenditure approach is useful for looking at an entire economy but it cannot be used directly for analyzing individual sectors because it does not show real product by industry.

The production approach used here looks at the industry of origin — and provides a basis for growth accounting, comparative structural anaylsis, studies of technological performance, and work on labor productivity and total factor productivity.

The method essentially takes the value of output in national prices and uses unit values from census data to standardize ouput uniformly and consistently. So, rather than use a common conversion factor (the exchange rate) it uses a standardized basis of valuation.

Applied to the manufacturing sectors of Brazil, Mexico, and the United States, the revaluation of output in national and U.S. prices provides a sounder basis for constructing relative indicators of productivity. It also reveals much about trade protection policies and their incidence on different sectors of the economy.

The approach shows, in addition, which data are anomalous and which analytically useful in industrial censes. It thus provides important lessons for the development of the Bank's data base — on how to increase its reliability and improve its relavance to operations. It also shows how new insights might be gained by exploiting some official sources which, though rich in detail, often remain untapped by international agencies.

This paper is a product of the Socioeconomic Data Division, International Economics Department. Please contact Estela Zamora, room S7-136, extension 33706.

6. Farm-Nonfarm Linkages in Rural Sub-Saharan Africa

Steven Haggblade, Peter B. Hazell, and James Brown

The links between agricultural growth and the rural nonfarm economy, known to be strong in Asia, are weaker in Africa but still important to the rural poor. Crucial for strengthening these links are policies and investments that (1) promote smallholders, (2) improve rural infrastructure, (3) encourage commerce and services, (4) foster the development of rural towns, and (5) explicitly recognize women as key actors in rural development.

Agricultural growth stimulates the rural nonfarm economy through a variety of links — some operating through production relations, others through consumer spending patterns. In Asia these links are strong: a $1 increase in agricultural incomes will generate about 80 cents in additional rural income, mainly among suppliers of rural nonfarm goods and services. In Sub-Saharan Africa, however, these links are much weaker: a $1 increase in agricultural income will generate only about 50 cents of additional rural income.

One reason for these weaker links in Sub-Saharan Africa is that there is less irrigation, which creates jobs in construction and maintenance. Another is the lower population density, increasing the distances to markets and diminishing the competitiveness of remote producers. A third is the pattern of household consumption, with less diversity in both food and nonfood consumption. Government policies and poor infrastructure also put brakes on the nonfarm economy.

Demand clearly is the main constraint on the rural nonfarm economy. So the first task is to get agriculture going — in short, to bring faster agricultural growth to Sub-Saharan Africa. The focus should be on small-scale farming, because of its many links to the rural nonfarm economy. the second task is to be ready when it comes. Here are some key considerations for policy formulation and future research:

- Investment codes and related laws that discriminate against small, rural firms have to be redressed.
- The focus on small-scale, rural manufactiring has to be redirected to include services, which are among the fastest growing rural nonfarm activities.
- Rural towns, crucial for the development of the rural nonfarm economy, have to be assured of adequate economic and institutional infrastructure, especially ground transport, comunications, and efficient credit and labor markets.
- Investments in rural roads and transport systems have to be adequate to ensure that viallagers have easy access to rural towns.
- Investments in people's skills have to accompany the investments in infrastructure to develop all types of rural businesses.
- Direct assistance to rural nonfarm enterprises — such as credit projects, especially those for working capital — can be much more cost effective than technical assistance and projects providing modern workshop facilities.
- Because women will be the key actors in the transformation of Africa's rurla economy — in trading, in processing and preparing food, and in many other services — governments and assistance agencies must explicitely recognize this role and ensure that credit schemes are open to women as well as men.

This paper is a product of the Agricultural Policies Division, Agriculture and Rural Development Department. Please contact Cicely Spooner, room N8-039, extension 30464.

7. Institutional Aspects of Credit Cooperatives

Avishay Braverman and J. Luis Guasch

If credit cooperatives are to be viable and help farmers, particularly small-scale farmers, they must pay more attention to the design of their operations — to the accountability of managers, to the structuring of incentives, and to the monitoring and enforcement of repayments.

Few farmers have obtained credit from formal sources — this, despite the remarkable expansion of credit throughout the rural areas of developing countries over the last three decades. Small-scale farmers have fared the worst, having been largely screened out of formal credit. The obstacles they face include higher transaction costs, greater perceived risks, and patronizing lenders.

To overcome these obstacles, small-scale farmers have formed organized credit groups and cooperatives. But such endeavors have failed more often than they have succeeded.

The high failure rate of these organizations is of concern for two reasons. They command a large amount of resources. And they are important in the economic development of rural areas, particularly in improving the plight of small-scale farmers.

Because the proper design of these organizations considerably increses their likelihood of success, policies to promote appropriate designs could be much more effective than mere subsidies, the predominant policy instrument so far.

More specifically, the focus of such policies should be on the optimal nature and scope of joint-liability arrangements, on the gathering and use of information in setting incentives, and on the rigidity of enforcement rules.

This paper is a product of the Agricultural Policies Division, Agriculture and Rural Development Department. Please contact Cicely Spooner, room N8-039, extension 30464. The paper will also appear in Pranab Bardhan (ed.), *Economic Theory for Agrarian Institutions,* Oxford University Press (forthcoming).

8. Prospects for Equitable Growth in Rural Sub-Saharan Africa

Steven Haggblade and Peter B. Hazell

The prospects for equitable growth in African agriculture are good as long as governments monitor land rights, upgrade rural infrastructure, foster farm-nonfarm linkages, and focus agricultural research on crops and technologies important to smallholders.

Improving agricultural technology in Africa has been difficult because of the continent's fragile soils, its patchwork of climates, its poor potential for widespread irrigation, and its weak institutions and infrastructure. So, when advances do occur, they are likely to be limited to specific zones, worsening the regional inequalities and in and between countries.

What, then, are the prospects for equitable agricultural growth in regions that benefit from new technological advances? They are good for several reasons. The distribution of land is no worse in Africa today, and the distribution of income is better, than in Asia before the green revolution. Moreover, there are few landless people in Africa. In addition, the technical packages in the field and the pipelines are scale-neutral, giving no edge to large farms over small ones. For example, improved seeds are suitable for small-scale applications, as are changes in cultivation that conserve moisture. And Africa's social institutions support people with a safety net and, through extended families, redistribute income gains — while non farm activities often provide an important source of income for the poor.

Equitable growth, though possible, is not assured, however. Several research and policy initiatives will be needed to capitalize on the potential

- Research must continue to focus on technologies appropriate for small farms and on crops, especially food crops, important to the poor.
- Policymakers must no longer restrict assistance to two categories of nonfarm activity that are particularly important for equitable rural growth — service enterprises and nonfarm activities of women.
- Rural infrastructure has to be upgraded to permit the widespread dissemination of technical advances and to enable the nonfarm sector to benefit from the increased demand emanating from rising agricultural consumption and production.
- Governments will need to monitor land tenure and tenancy to ensure that landlords and large farms do not monopolize the fruits of technological advance.

This paper is a product of the Agricultural Policies Division, Agriculture and Rural Development Department. Please contact Cicely Spooner, room N8-039, extension 30464.

9. Can We Return to Rapid Growth?

Andrea Boltho

Probably not, for the likelihood of spontaneous market forces favoring private investment is slim. A more promising route for returning to rapid growth in the industrial countries is to rely primarily on a government-led expansion to promote investment — something possible only with an unusual degree of international cooperation.

The projections for economic growth in the industrial countries during 1985-95 have been revised steadily downward — to a pessimistic 2.5 percent a year. Can this trend be reversed?

The crucial element in achieving high growth rates is a rising rate of investment, itself a reflection of confidence in the economy. The conditions that stimulate higher investment can result from spontaneous market developments or from sharp changes in economic policy.

Chances that the former will occur, while slim, depend on putting in place policies that favor a surge in investment-led growth. These include reducing government deficits and promoting technological innovation and entrepreneurial activities, particularly by small firms. Maintaining low inflation rates and strong demand are equally important. Despite the existence of many of these conditions for some time, growth has slowed even further.

Expansionary government policies may be a more plausible route, although the pace is crucial. Too rapid an advance could propel inflation; a slower strategy could be too diffuse to overcome the present downturn. Opting for bold efforts is probably more promising, although even here policymakers face skepticism that independent government policies can work in today's interdependent global markets.

One possible solution is to strive for international policymaking and to regain some degree of exchange-rate stability. This kind of international coordination could be the impulse for rapid growth, as it was after the Second World War.

This paper is a product of the International Economic Analysis Division, International Economics Department. Please contact Joseph Israel, room S7-218, extension 31285.

10. Optimal Export Taxes for Exporters of Perennial Crops

Mudassar Imran and Ron Duncan

Governments relying heavily on export taxes for revenue tend to tax commodity exports more heavily, which is consistent with short-run elasticities of demand and supply. But this makes them more suscep-

tible to losing their market share over the long run.

Since the estimate of the optimal export tax is based on the price elasticity of demand and the price response of the commodity from other sources, should policymakers look at short- or long-term elasticities? The difference is crucial, especially where there is a large gap between the two. Governments weighing the optimal export tax have a choice — accepting lower tax revenues now and reaping higher revenues in the future, or setting their sights on high short-term tax revenues and losing out in the long run.

A comparison of the estimated optimal export tax rates for major developing country producers of cocoa, coffee, tea, and rubber with current tax rates shows the following. When the government depends heavily on the tax for its revenue, it taxes on the basis of the short-run elasticities. This tax rate is much higher than if the long-run elasticities were used, which is usually the case when the taxes are a small proportion of government revenues. But the higher tax rate makes the country susceptible to the loss of market share over time because it reduces the incentive for its own producers (while raising world prices) and encourages the substitution of other commodities by other producers.

Actual export tax rates applied by Cameroon and Nigeria on cocoa and by Sri Lanka on natural rubber were much higher than the optimal rate even when based on short-run elasticity estimates and may well have contributed to reductions in their world market shares.

Recent reductions in export taxes by dominant rubber exporters appear to have exerted downward pressure on world prices, which is consistent with theory.

This paper is a product of the International Commodity Markets Division, International Economics Department. Please contact Audrey Kitson-Walters, room S7-053, extension 33712.

11. The Selection and Use of Pesticides in Bank Financed Public Health Projects

Bernhard Liese and Norman Gratz

When there is no alternative to chemical pesticides, they should be used with environmental and biological methods to cut costs, reduce contamination, and lower the possibility of resistance to the pesticide.

Three methods are available for controlling vector-borne tropical diseases — environmental, biological, and chemical. Environmental control to permanently alter the conditions that allow vectors to breed and develop is the preferred method, but it is not always feasible. Biological control is species-specific and may only be effective under narrow ecological circumstances.

For control of most diseases, therefore, pesticides are the only alternative. Whenever possible, these chemicals should be used along with environmental or biological methods and the appropriate drug or vaccine. This will cut costs, reduce contamination from pesticides, and lower the possibility of resistance to the pesticide.

Public health officials must be concerned that the compound chosen is safe for the user as well as for inhabitants and domestic animals in the treated area. The method of control must be appropriate for each targeted vector, because there are wide biological differences among species.

Some further considerations in the selection of a pesticide for a public health program to control a particular vector of disease are:

- The chemical must be a narrow spectrum pesticide
- It should be effective in the proposed geographic area
- The target vector should be evaluated to determine if it is resistant to a given chemical
- The proposed pesticide must not pose a hazard to species that are not targeted.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091.

12. Teacher-NonTeacher Pay Differences in Côte d'Ivoire

Andre Komenan and Christiaan Grootaert

Although teachers in Côte d'Ivoire receive a rent component in their base salaries, it does not put them ahead of nonteachers, who are likely to receive better in-kind benefits, bonuses, and commissions in addition to their salaries.

Because base salaries for teachers in Côte d'Ivoire are higher than wages of workers in other occupations, there is some question about whether teachers are overpaid. But other workers widely receive benefits, bonuses, and commissions and earn the same as teachers. Even allowing for higher educational requirements, different types of teachers, and longer vacations, teachers are not better paid than employees in other fields.

Moreover, while salaries for teachers and other workers having similar educational backgrounds in Côte d'Ivoire are almost the same, nonteachers earn twice as much as teachers having similar lengths of service.

Policymakers should thus be cautious when considering budget cuts that would lower teachers' salaries, cuts certain to make the teaching profession less attractive.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

13. Objectives and Methods of a World Health Survey

Trudy Harpham and Ian Timaeus

Designing and administering a world health survey will not be easy, but one of the gains from such a survey could be an improvement in the methods governments use to conduct and analyze health studies.

Many developing countries are trying to improve the routine collection of health information by strengthening surveys, censuses, and registration systems. At the international level, too, efforts are under way to provide information on health and health interventions, including statistical reporting programs of the

U.N. and the World Bank.

In view of the limited financial resources in the developing countries, would a world health survey complement these health information systems and contribute to long-term health care? Is it reasonable to expect that such a survey could identify the patterns and causes of disease and at the same time measure the effectiveness of investments in health?

Although a series of coordinated country health studies could be valuable, there are many tradeoffs. Considering the variety of health problems and priorities in developing countries, it is probably more important to develop the expertise to conduct and analyze health studies than to devise a standard questionnaire to collect health data. As for the cost-effectiveness of health programs, a world health survey is not the appropriate vehicle for such evaluations, but it can address such concerns as access, coverage, patient costs, and financing systems.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Amelia Menciano, room S6-278, extension 33612.

14. The Optimal Currency Composition of External Debt

Stijn Claessens

By choosing the appropriate currency composition of their external debts, developing countries can reduce the exposures associated with exchange rates, interest rate, and commodity price uncertainties.

The increased volatility of exchange rates, interest rates, and goods prices has focused fresh attention on the importance for developing countries of reducing their risks in these markets. These countries generally cannot use such conventional hedging instruments as currency and commodity futures because of a variety of institutional and other constraints. But they can use the currency composition of their external debt to hedge against exchange rates and commodity prices.

The optimal currency composition of their foreign debt portfolios depends on the following factors:

- Domestic production structures.
- The shares of spending on different goods by consumers.
- The relationship between prices for domestic goods and exchange rates.
- The costs and risks of borrowing in foreign currencies.
- The effects of exchange rates on expected receipts and payments in foreign currencies.

What if a country only wants to hedge itself against the impact of commodity price and exchange rate movements and does not want to speculate on relative exchange rate movements? Its optimal currency composition will then hinge on the covariances between commodity prices and exchange rates, the covariances between exchange rates, and expected net foreign currency receipts.

This paper is a product of the Office of the Vice President, Development Economics. Please contact Sook Bertelsmeier, room S9-039, extension 33767.

15. Stimulating Agricultural Growth and Rural Development in Sub-Saharan Africa

Vijay S. Vyas and Dennis Casley

Restoring agricultural growth in Africa will require new production technologies appropriate for different farming systems. It will also require eliminating government policies that discriminate against farmers.

Economic growth in Sub-Saharan Africa depends on reversing the region's deterioration in agricultural performance — a reversal that is crucial both for meeting domestic consumption needs and for generating foreign exchange earnings through exports. But efforts to restore agricultural growth are hampered by the ecology of the region, undermined by policies that jeopardize agricultural and rural development, and complicated by sluggish global economic growth as well as agricultural policies in industrial countries.

Given the region's necessary transition from a land-extensive to a land-intensive farming system, attempts to improve agricultural production and to lay the groundwork for sustained rural development will depend on the correct choice of policies. In making these choices, policymakers must consider some important changes in African agriculture:

- Changes in farming systems — from slash- and-burn to multiple-cropping,
- Changes in land rights — from collective ownership to contractual arrangements,
- Changes in institutions — as more formal credit and marketing services become available.

Equally crucial to Africa's agricultural development will be parallel efforts to remove policy barriers that have undercut agricultural production or hurt agricultural productivity. These barriers include high taxes, price controls, unfavorable exchange rates, and inefficient parastatal marketing boards.

In addition to policy reform, long-term improvement in African agriculture will require developing and extending new production tech-nologies. It will also require creating institutional structures to strengthen national research capabilities, and designing policies and investment strategies to improve the links between the farm and nonfarm sectors in rural areas.

This paper is a product of the Agriculture and Rural Development Department. Please contact Hilda Vallanasco, room J2-262, extension 37591.

16. Antidumping Laws and Developing Countries

Patrick Messerlin

Antidumping laws can be a back door to protection, jeopardizing trade liberalization in developing countries.

Current GATT-consistent antidumping laws have a strong protectionist drift and a pro-cartel bias. They endanger the very edifice of the international trade system based on GATT rules.

LDCs and NICs are deeply involved in antidumping actions, both as defendants and as prosecutors. Their exports represent 50 to 60 percent of the new cases investigated by the United States and the European Community. They are hurt not only by antidumping actions initiated by other countries but by their own antidumping laws, which may jeopardize their trade liberalization programs.

LDC and NIC involvement in anti-

dumping matters will be a long-term phenomenon, as it is not related to short-term macroeconomic variations. In the Uruguay Round, LDCs and NICs should play an active role in reforming GATT rules to reduce the GATT bias in favor of "injured industries" that compete for imports and to make GATT rules conform more to their ongoing trade liberalization programs.

Why avoid antidumping actions?

- Three years after investigations were initiated, antidumping measures reduced import quantities by 40 percent.
- The measures taken are severe, increasing values roughly 23 percent, on top of other protection. They also encourage price-fixing agreements — and create a trade diversion, particularly for LDC and NIC exports.
- Rents accruing to foreign firms because of antidumping protection are substantial for industrial countries, less important for LDCs, and almost nil for NICs. The costs for foreign exporters are the net result of losses in export quantities and the gains in rents received on the remaining exports (a net loss of roughly 17 percent of initial export values for LDCs and 25 percent for NICs).

This paper is a product of the International Trade Division, International Economics Department. Please contact Salome Torrijos, room S8-033, extension 33709.

17. Economic Development and the Debt Crisis

Stanley Fischer

Debtors and creditors, including the international institutions, should work toward longer-term adjustment plans that ensure debtor countries of adequate resource flows over several years and that lead to needed policy changes during the period of adjustment.

The prolonged debt crisis of those highly indebted countries whose debts are owed primarily to the commercial banks has resisted all the creative financial engineering efforts of the last few years.

The Baker initiative, which built on increased lending flows from the commercial banks and multilateral institutions, has produced only fitful growth. And new financing arrangements have made only a small dent in the debt problem. As for more ambitious schemes, such as an international debt facility, there is little prospect that governments or commercial banks will accept the losses such a facility would recognize.

Thus it is more likely that the current country-by-country approach will evolve — with the introduction of some new assets and perhaps the development of debt conversion techniques in conjunction with long-term adjustment programs. The banks, too, might be willing to grant debt relief if it is associated with a change in economic policy in the debtor country or with guarantees of some type. For some countries, both creditors and debtors might prefer interest rate reductions to write-downs of the debt.

Fundamental policy changes in the debtor countries have been slow in coming. Reforms will be more likely if the debtor nations can be sure that financing will continue over several years. The benefit of such an approach is that it moves toward a longer-term solution to the debt crisis, enabling governments to concentrate on domestic economic management rather than debt negotiations. Because the debt crisis dominates policymaking in these countries, a shift toward longer-term development would itself contribute to growth.

This paper is a product of the office of the Vice President, Development Economics. Please contact Sushma Rajan, room S9-035, extension 33766.

18. China's Vocational and Technical Training

Harold Noah and John Middleton

China is reforming its vocational and technical education and training to meet the skilled labor requirements of a changing economy.

To attain the number of skilled and semiskilled workers needed for its projected development, China must give higher priority to vocational and technical training and education.

Enterprises are being asked to implement a policy of "training before employment." Rather than hire and train unskilled workers assigned to them by government labor bureaus (the previous system), managers are now expected to require appropriate training credentials of new employees.

Until now, vocational and technical education has regularly been underfunded by government and provided by enterprises. This tradition of enterprise-based training reflects a link between training and industry that many industrial nations are only now trying to establish. But this training has generally been inefficient, overspecialized, and far too time-consuming for what it accomplished.

Authorities in Beijing are encouraging provincial, county, and municipal authorities to attain 50 percent enrollment in secondary schools of general education and 50 percent (greatly increased) enrollment in vocational and technical schools — to support the goal of expanding the service sector and self-employment. The overall pattern will be to strengthen the free-standing secondary technical and vocational schools; to introduce vocational programs in the general education high schools; and to develop enterprise-based skilled workers schools.

The core system of lifetime employment is to be replaced by a system of contract labor, permitting managers to hire workers for fixed periods and allowing workers limited latitude for negotiating compensation and terms of employment in return for surrendering tenure. (The old system of low, nationally determined wage scales remains in place; whether and how a system of bonuses will be used to improve worker-manager incentives remains to be seen.)

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

19. Côte d'Ivoire's Vocational and Technical Education

Christiaan Grootaert

Formal vocational and technical education has been geared too much toward jobs in the modern sector, which cannot absorb many new workers. Informal training — chiefly apprenticeship training — doesn't prepare trainees adequately to do account work. To develop the unrealized potential of the informal sector, both formal and informal training should be redirected toward the informal sector.

Côte d'Ivoire spends more of its budget (42 percent) on education than any other country in the world. Part of its spending on formal vocational education and training should be redirected toward training in the informal sector.

The public costs of formal vocational and technical education (VTE) per student are four to seven times higher than the costs to individuals because of generous scholarship programs, the high cost of expatriate teaching staff, and the underuse of facilities during the current recession. Specific policy measures that would increase the social rates of return on investments in vocational training and education include:

- Reducing scholarships to VTE students.
- Replacing expensive expatriate (mostly French) teachers with Ivorians.
- Building fewer new buildings and making better use of the old ones.
- Upgrading the apprenticeship system by setting up short-term vocational and technical (especially evening) courses that complement apprenticeship training. These would include courses for the self-employed on, say, credit and marketing to help them run their own businesses.
- Promoting the employment of formal VTE graduates outside Abidjan, the magnet for most rural migrants.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

20. Imports and Growth in Africa

Ramon López and Vinod Thomas

Faster economic growth in Africa involves a recovery in the growth of imports — and greater efficiency in their use.

Broad comparisons show that growth is linked to imports, but country comparisons over short periods show the link to be more flexible than fixed. Countries can adjust import intensities in the short term — maintaining growth, even with depressed imports.

For Africa, in these stringent times, a big question has been whether better domestic policies induce structural changes that also spur more growth for each dollar of imports. Put differently, Can African countries reduce their historically high import dependence? Can they resume growth without substantially increasing their imports?

One set of policies affecting the import efficiency of growth includes those that improve the incentives for agriculture and for restructuring the manufacturing sector. Another set includes macroeconomic changes that affect the real exchange rate and the level and composition of public spending. Such policy changes have been under way to varying degrees in several African countries — among them, Ghana, Kenya, Zaire, Zambia, Nigeria, Tanzania, Madagascar, and Côte d'Ivoire.

What, then, are some of the policy outcomes that change the import intensity of growth?

Some shifts reduce import dependence. One is a shift from public consumption to private consumption. Another is a depreciation of the real exchange rate. And a third is a shift to agricultural growth.

By contrast, opening the trade regime and promoting exports would encourage imports (and exports). Restructuring industry to increase its productivity would also increase some imports (but reduce others).

What emerges from this analysis is that some policy changes and structural adjustments in Africa can change traditional import intensities. But if African countries are to achieve faster sustained growth, imports will need to increase substantially from the recently depressed levels. And countries will have to use those imports far more efficiently than in the past.

This paper is a product of the Trade Policy Division, Country Economics Department. Please contact Karla Cabana, room N10-037, extension 37946.

21. Effects of European VERs on Japanese Autos

Jaime de Melo and Patrick Messerlin

Even for so highly differentiated a product as cars, voluntary export restraints do not protect domestic industries or consumers. Demand is deflected to unrestrained third countries, the restrained exporter upgrades quality, and consumers end up paying more.

The voluntary export restraints (VERs) that the U.K., France, and Germany negotiated with Japanese automakers show why VERs do not protect domestic industries and probably end up costing consumers more.

First, most EC countries followed suit after the British negotiation with Japan in 1976 (the domino effect).

Second, the VERs did not arrest import penetration by third countries. When Japanese imports were restricted, the French simply bought Italian and German cars.

Third, the Japanese upgraded the quality of cars sold on the French market between 1981 and 1983. (The VER was not strictly binding in France until 1984 and in Germany until 1985.)

Fourth, between 1979 and 1986 French, German, and Japanese producers supplied an increasingly similar product mix on the French car market, whereas the Italians created a distinctly different type of product.

Fifth, in 1984 and 1985 the quota raised auto prices in France about 9 percent, costing French consumers about 320 million francs and saving only about 300 jobs.

This paper is a product of the Trade Policy Division, Country Economics Department. Please contact Sheila Fallon, room N10-017, extension 38009.

22. Methodological Problems in Cross-Country Analyses of Economic Growth

Jean-Paul Azam, Patrick Guillaumont, and Sylviane Guillaumont

Cross-country studies provide a weak basis for the formulation of economic policies in developing countries.

Many cross-country studies have been conducted over the last 20 years to explain how various factors affect economic growth rates in the developing economies. The data in these studies — which underlie international economic comparisons and serve as the basis for economic policy recommendations — give research-

ers the systematic and scientific information required for their investigations. But the conclusions are often fragile and sometimes contradictory.

Research results are sensitive to the choices of components, the aim of the investigation, and the type of model used. In general, researchers need to have better statistical data, particularly on economic policy indicators, and must subject the selected sample to careful tests.

Cross-country studies are particularly unreliable when it comes to estimating the economic impact of government budgetary and regulatory policies. These studies thus provide only a weak basis for developing country economic policies.

This paper is a product of the Socioeconomic Data Division, International Economics Department. Please contact Estela Zamora, room S7-136, extension 33706.

23. Cost-Effective Integration of Immunization and Basic Health Services in Developing Countries: The Problem of Joint Costs

A. Mead Over Jr.

The debate between those who favor delivering comprehensive primary health care from fixed health centers and those who favor delivering selective primary care from mobile health teams can be decided, in principle, on empirical grounds. Key requirements for choosing the more cost-effective approach in a given developing country are (1) an effective measure common to both types of health care programs and (2) an approach to modeling joint costs.

With limited budgets for rural primary health care, developing countries are under pressure to integrate the basic medical services that government health centers provide with the vaccination programs that mobile immunization teams handle. For health planners, the question is whether to organize the integrated services around the fixed health centers or around the mobile health teams. Implicit in this decision is a choice between more comprehensive health care from the fixed center versus more selective care from the mobile teams.

Application of cost-effectiveness analysis is complicated by two inherent difficulties. First, because the two types of health care programs improve the health of different target groups, some common measure of the effectiveness of the two programs must be agreed upon. Here the healthy-life-years saved by the two alternative programs is proposed and implemented as a useful common measure of effectiveness.

The second difficulty is that of modeling the joint costs of simultaneously producing more than one health care service. In some situations the degree of "jointness" of the cost structure and the associated production technology have an important impact on the relative cost-effectiveness of the two alternative approaches.

Using the method described here, economists can address this problem in a way that does justice to both the superior efficiency of the mobile teams and the superior comprehensiveness of the fixed centers. Special purpose models such as this one can guide policy decisions since they are less complex than more general models and can be easily understood by decisionmakers.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Noni Jose, room S6-105, extension 33688.

24. World Bank Investment in Vocational Education and Training

John Middleton and Terri Demsky

The challenge facing future World Bank investment in vocational education and training is to bring past successes in middle-income countries to the lower income countries. Strategies naturally will have to vary greatly from country to country.

World Bank investment in vocational education and training (VET) has averaged $500 million a year in the 1980s. Since 1980 there has been a significant shift away from investments in secondary diversified vocational schools to nonformal training centers and university programs. Investments in industrial training have increased while those in agricultural education have been reduced. This change reflects lessons about the effectiveness of different types of training.

In the past ten years the most striking achievement of VET has been the development of national training systems from nonformal training centers and postsecondary technical education institutions. This has happened largely in middle-income countries, where project investments have emphasized expansion of institutions and the link between training and employment. In middle-income countries all types of training — secondary, nonformal, post-secondary, and VET teacher training — have been successfully established.

Investments in low-income countries, especially those in Sub-Saharan Africa, have been less successful. Implementation weaknesses and stagnating economies have made it difficult to set up any type of training. Efforts are hampered by inefficiency and poor participation. Investment in national training programs has just begun in these poorer countries, and success is uncertain because of continuing economic constraints.

These patterns suggest that the level of economic development and the consequent size and dynamism of industrial employment have a powerful influence on the outcome of investments in vocational education and training. Therefore, future investment strategies should differ substantially among countries at different levels of industrialization.

In middle-income countries where national training systems already exist, VET investments should emphasize rehabilitation, quality improvement, and further development of institutional efficiency.

Some of the lower-middle-income (and larger low-income) countries are in the early stages of developing national training systems and can benefit from the experiences of the more advanced countries. VET investments in those countries should support institutional development and policy issues, including separation of vocational training from other education and development of alternatives to direct government financing.

In small low-income countries, recent Bank experience suggests that resources be concentrated in nonformal training centers, training quality, development of management capacity in training institutions, and aggressive market-

ing of training opportunities and services.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

25. Israel's Vocational Training

Adrian Ziderman

Vocational secondary schooling costs much more than other types of job training in Israel — and appears not to lead to correspondingly higher earnings.

Eighty percent of the trainees headed for Israel's labor force go to full-time vocational secondary schools that devote a third to a half of the curriculum time to general studies. Students tend to come from a higher socioeconomic level than those in other training programs.

The rest of Israel's vocational students are evenly divided among the Ministry of Labor's remaining three programs. The apprentice attends school one day a week and works on the job the rest of the time. The student is typically a low academic achiever with a low socioeconomic background.

Students in industrial schools spend three days a week in the plant where the school is located and three days in the school. The program is less demanding and more practical than the vocational school curriculum. No tuition is charged and trainees are paid for their work.

The one-year full-time training courses for 16 and 17-year-olds, many of whom are drop-outs, concentrate on practical training. Those who complete the course get additional training in the army during their compulsory three-year service.

Of the four types of training in Israel — vocational secondary schools, apprenticeship courses, industrial schools, and full-time training courses — vocational school is by far the most expensive. In 1977 Michael Borus found that the cost of apprenticeship courses was one-seventh that of vocational schools; industrial schools and training courses cost only a third to a quarter as much. This 7-year longitudinal study confirms Borus' earlier tentative findings, concluding that since post-training earnings were roughly the same for all four programs, the apprenticeship system was the most cost-effective.

These findings echo those of case studies in other countries. But, to conclude that vocational training schools are not cost-effective on the basis of eventual earnings alone is to ignore part of the picture. The goals of the vocational secondary school in Israel extend beyond those of providing usable labor market skills. These wider social and educational goals are largely absent from the narrower and more work-oriented types of training. In any cost-benefit evaluation of vocational schooling, these goals would have to be given more weight.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

26. Changing Patterns in Vocational Education

John Middleton

Investment in secondary vocational schools has declined in favor of nonformal teaching systems, which take a long time and multiple investments to establish. The shift leaves secondary education in need of new direction.

One of the long-standing issues in education development has been productive job training in rapidly changing economies. The argument has been made that vocational secondary schools are not well-equipped for this task — that they often become second-best educational alternatives for young people rejected by the academic mainstream. Although vocational and academic schooling often result in similar levels of education and employment, the higher costs of the vocational schooling make it a less attractive alternative.

In the past 23 years of Bank lending for vocational education and training (VET), there has been a clear shift away from vocational secondary schools toward various forms of training, outside the formal educational system.

Some of the nonformal training programs have been quite successful. Nine characteristics have contributed to the success of three such programs in Korea, Jordan, and Brazil:

1. Long perspective with multiple investments: It took 15 years and more to establish each of the three programs and as many as five project investments.
2. Expanding industrial employment: Industries in all three countries had a strong demand for skilled workers.
3. Small formal beginnings and incremental expansion: The first projects were relatively small and simple. In the middle and later stages the three countries were able to build and expand on their own experience.
4. Responsive planning: The training systems were planned in response to, not anticipation of, employment demand.
5. Early and sustained involvement of enterprises: Sustained efforts were made to link training with employment by involving employers.
6. Evolution of policy and management capacity to match system complexity: As the training systems grew, quasi-autonomous national agencies were created to manage job training.
7. Increasing attention to alternative financing sources: Efforts were made to find financing other than government appropriations from general tax revenues.
8. Investment in quality: The quality and relevance of teaching and learning was improved.
9. Flexibility of curriculum and institutional design: The training institutions that were created could respond easily to changing economic circumstances.

Although investment has been shifting into nonformal training, secondary education is in need of new directions. Diversified secondary schools have not provided that direction, leaving questions about how secondary schools might meet social objectives cost-effectively.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

27. Family Background and Student Achievement

Marlaine E. Lockheed, Bruce Fuller, and Ronald Nyirongo

Prior research has underestimated the influence of family background on student achievement in developing countries.

Past research in developing countries has shown that school-related influences have a greater effect on student achievement than does family background, a finding that contrasts sharply with research in industrialized countries. This has led to the conclusion that schools in developing countries are more effective than schools in industrialized countries.

But the earlier work suffers from conceptual flaws. It has defined family background in material terms and failed to consider other motivational factors. Earlier research has also used measurements (such as level of parental education and occupational status) more appropriate to the industrialized world than to the class structure of the country being studied.

Two studies of student motivational behavior in Thailand and Malawi address these shortcomings. In the Thailand study, conventional measures of family background (parental education and occupation) were kept constant. Student achievement in both urban and rural settings was related to such motivational variables as educational expectations, attitudes and effort.

The Malawi study employed definitions of family background more relevant to a developing country: labor demands placed on children, basic attributes of houses, and mother tongue. These variables were more consistently related to pupil achievement than were the conventional indicators, parental education and occupation.

If, as these two studies indicate, family background is as important to students in developing countries as in industrial ones, two types of action are suggested. First, education programs could be designed to take into account family background characteristics of students. They might include early intervention programs, such as preschool or a change in school schedules to better meet patterns of child labor. Second, education systems could work to improve student motivation and parental support directly by promoting the importance of education.

In sum: Researchers should be more careful in their modeling of family and school characteristics in the developing world. Failure to recognize the family's early and apparently lasting influence is a failure to accommodate education programs to indigenous realities.

This paper is a product of the Population and Human Resources Department, Education and Employment Division. Please contact Cynthia Cristobal, room S6-001, extension 33640.

28. Temporary Windfalls and Compensation Arrangements

Bela Balassa

Developing countries that export a single major commodity subject to considerable price instability can even out temporary fluctuations in export prices by setting up compensation arrangements that hold the proceeds of a booming sector in a special fund outside the budget.

Sharp fluctuations in the export prices of a major staple commodity have three jarring effects on economic activity. First, price hikes in a booming sector lead to a deterioration in the position of other exporters as resources are redirected to the desired sector and shortages emerge — and falling prices in a sagging sector affect other, unrelated exports. Second, governments tend to spend additional revenue generated during the boom and to keep on spending even after prices fall. Third, the export surge generates a domestic expansion, bumping up against production limits that bring on inflation and, if a reversal occurs, unemployment.

To reduce the effects of highly unstable commodity prices and increase the government's share in the proceeds of the booming sector, developing countries can funnel the revenue from higher export earnings into a special compensation fund. The fund works like this: By setting up a variable export levy somewhere between the actual export price and an agreed-upon base, the government appropriates the windfall revenues. In a downturn, the fund pays producers the base price.

The fund is set up to handle these transactions outside the budget. This has the effect of:

- Limiting price changes between domestic and imported goods.
- Holding down government spending when export earnings are high (since the spending programs may not be reversible).
- Reining in inflation to prevent a wage-price spiral.

Chile and Cameroon have set up such arrangements. In Chile the aim was to avoid currency appreciation in the event of temporary increases in copper prices. In Cameroon, the government has repatriated only part of the oil earnings, and included only some of these revenues in the budget.

Compensation schemes will work in other developing countries whose major export is a staple commodity, subject to sharp price fluctuations, and which accounts for a large share of gross domestic product. In this way, the exchange rate, the money supply, and the budget will be unaffected.

This paper is a product of the Office of the Vice President, Development Economics. Please contact Norma Campbell, room S9-047, extension 33769.

29. The Relative Effectiveness of Single-Sex and Coeducational Schools in Thailand

Emmanuel Jimenez and
Marlaine E. Lockheed

Single-sex schooling is more effective for girls, but coeducational schooling is more effective for boys in improving student performance in mathematics. The differences are due to peer group effects, rather than to school or classroom charcteristics.

Several studies of the relative effectiveness of single-sex and coeducational schools have shown that single-sex secondary education promotes both academic achievement and orientation, particularly for girls. "Single-sex" education also includes coeducational schools where students are separated into single-sex classes for instruction.

Most studies of single-sex education have made little or no attempt to control for factors such as student background, school type (public or private), and school selection by parent or students. These factors can affect achievement and skew analyses that seek to compare only the effect of single-sex education versus coeducation.

Mathematics test scores of Thai eighth-graders, obtained during the 1981-82 academic year, are compared for students in coeducational and single-sex schools. The study overcomes the methodological problems by holding constant student background, school type, and

school selection. Moreover, the study minimizes the effects of non-measured variables such as a student's ability, motivation, or previous achievement. It does this by measuring performance at the beginning and again at the end of the year to focus on the educational "value added" during that year.

Girls in single-sex Thai schools scored higher in mathematics achievement at the end of the eighth grade, but the reverse was true for boys, who exhibited higher scores in coeducational schools. Why was this so?

The largest factor affecting student performance was the student's peer group. The data did not permit an analysis of how peer groups affect achievement, but studies in developed countries suggest that class participation and leadership opportunities are suppressed for girls in coeducational settings and for boys in single-sex settings.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

30. The Adding Up Problem

Bela Balassa

Rather than market constraint in the developed countries, export growth in the developing countries is largely determined by supply factors. This conclusion supports the views of those who advocate the application of outward-oriented policies in the developing countries.

This paper presents empirical evidence pertaining to the "adding up problem" and the "fallacy of composition." It is shown that, rather than market constraint in the developed countries, export growth in the developing countries is largely determined by supply factors. Thus, the deceleration of economic growth in the developed countries after 1973 was accompanied by an acceleration of the growth of the exports of the developing countries.

It further appears that, under realistic assumptions, the future growth of manufactured trade between developing and developed countries would result in a net employment gain for the latter. This would happen as employment gains in technologically advanced industries employing technical and skilled labor would more than offset losses in industries using chiefly semi-skilled and unskilled labor. At the same time, these losses would occur over a ten-year period, thereby limiting the cost of adjustment.

The cost of adjustment in the developed countries would decrease further if outward-oriented policies gained wider acceptance in the developing countries as these policies ensure the upgrading and diversification of exports and permit increased intra-industry specialization that limits pressures on particular industries in the developed countries. Thus, the argument of the proponents of the fallacy of composition thesis is turned on its head: the difficulties of adjustment in the developed countries can be reduced if more developing countries adopt outward oriented policies, rather than persisting in exporting a limited number of simple manufactures.

This conclusion gains in force if one considers that the foreign exchange obtained through the exportation of manufactured goods is spent by the developing countries to purchase manufactured goods from the developed countries. Thus, the balance of trade does not change and, under outward orientation, the increment in foreign exchange is often utilized in the same industries via intra-industry specialization.

Also, developing countries can export to other developing countries. With the industrialization of outward-oriented countries, they can increasingly exchange manufactured goods with countries at lower levels of development, thereby providing an impetus to their economic growth without encroaching on developed country markets.

The findings of this paper have important policy implications. They support the views of those who advocate the application of outward-oriented policies in developing countries. This conclusion is strengthened if consideration is given to the possibilities of increased trade among the developing countries themselves. Finally, outward orientation promotes efficient import substitution through the reform of the system of incentives.

This paper, a product of the Office of the Vice President, Development Economics, is a background paper for the 1988 World Development Report. Please contact Norma Campbell, room S9-047, extension 33769.

31. Public Finance and Economic Development

Bela Balassa

Budget deficits tend to lead to a deterioration of the balance of payments. Furthermore, increases in government consumption and the public investment have adverse effects on economic growth.

This paper reports on tests of alternative hypotheses as to the effects of a budget deficit, examines the influence of the size of the government on economic growth, and investigates the impact of public investment on private investment, total investment, and economic growth.

The econometric results provide evidence that a substantial part of the budget deficit of the developing countries is externally financed. Also, the budget deficit appears to adversely affect private investment. However, a correlation between the budget deficit, on the one hand, and the money supply, inflation rates, and economic growth, on the other hand, has not been observed.

At the same time, there is a negative correlation between the ratio of government consumption to GDP and economic growth. This relationship applies to all developing countries as well as to the regional subsamples of countries in Africa, Asia, and Latin America.

Finally, there is a negative correlation between public investment, on the one hand, and private investment, total investment, and economic growth, on the other. It further apppears that the negative effects of public investment on economic growth can be decomposed in two parts: their adverse impact on total investment and their unfavorable influence on the efficiency of investment.

These findings have important implications for the developing countries. They show that budget deficits have adverse effects on the balance of payments as well as on domestic investment. It further appears that increases in government consumption adversely affect economic growth. Finally, increases in public investment not only crowd out private investment but tend to lower the efficiency of investment, with adverse effects on economic growth.

The conclusions point to the need for reducing budget deficits in developing countries. They further favor lowering government consumption as well as public investment in these countries.

This paper, a product of the Office of the Vice President, Development Economics, is a background paper for the 1988 World Development Report. Please contact Norma Campbell, room S9-047, extension 33769.

32. Municipal Development Funds and Intermediaries

Kenneth Davey

Where rapid urbanization strains the capacity of local governments to provide necessary public services, municipal development funds can channel new investments to municipalities and strengthen local government.

Urban populations are growing at nearly double the rate of population growth in developing countries, putting considerable pressure on local governments to expand their physical and social infrastructure. Crowded cities are short of funds and unable to attract investments to expand the facilities, services, and enterprises needed to upgrade urban areas. To compound the problem, municipal governments, which bear most of the responsibility for urban areas, lack the financial and technical resources.

One way to route new investments to local municipalities is to establish municipal development funds. These funds lend money to municipal clients (or provide a mix of grants and loans) for long-term conventional investments in urban infrastructure, commercial plants, housing, and other important facilities.

These funds have attracted the support of international aid donors because they offer a way to provide wholesale funding for a wide range of urban investments. Most of the recent aid projects are at an early stage. Donors have focused on developing appraisal skills and establishing technical standards for the projects, but equity is a prominent objective, particularly for investments in water supply, sanitation, and other neighborhood improvements. Typically the funds combine financing with measures to strengthen the financial and technical capacity of local governments.

To date, a few of these funds have improved the capacity of local governments to operate, expand, or recover costs. But the record of recent minicipal development fund programs is better. The new funds improve the distribution of funding for urban investment and strengthen municipal governments. .

This paper is a background paper for the 1988 World Development Report. Please contact Rhoda Blade-Charest, room S13-060, extension 33754.

33. Fiscal Policy in Commodity-Exporting LDCs

John Cuddington

Commodity-exporting countries have sometimes found themselves worse off after a boom than before it, due to fiscal mismanagement of the boom proceeds. Good fiscal control during booms can temporarily accelerate the rate of economic development.

Revenues in countries that rely heavily on one or two primary commodities tend to fluctuate widely with prices in international markets. This fluctuation is especially wide when export taxes are a large part of the total tax base but also when the private sector reaps most of the gains from booming prices.

Most developing countries have over consumed in response to windfalls from surges in world prices. In many cases government spending has outstripped the gain in revenues. These sharp increases in government spending are difficult to reverse when the boom ends and often lead to large fiscal deficits rather than surpluses.

Countries like Cameroon and Colombia, however, whose policies emphasized conservative fiscal management, have generally benefited from booms. The most effective government policies:

- Allocate public investment programs to sound projects that do not involve burdensome recurring costs.
- Keep government spending at levels consistent with long-run budget expectations.
- Maintain prudent external borrowing and foreign exchange reserve policies.

Programs along these lines have the potential to reduce a country's debt and restore economic growth.

This paper is a background paper for the 1988 World Development Report. Please contact Rhoda Blade-Charest, room S13-060, extension 33754.

34. Fiscal Issues in Macroeconomic Stabilization

Lance Taylor

Fiscal austerity's threat to normal policy goals looms even larger because many of its effects are unexpected and poorly understood.

A key question for stabilization programs is this: How do governments get into fiscal difficulty in the first place?

Three views predominate: the political deficit, the structural deficit, and the inflation tax. In the first view, the state is forced toward taxing too little and spending too much, both to pay off specific interest groups and to sustain employment through aggregate demand. In the second view, the economy suffers a contractionary shock — such as falling terms of trade or interest rate incursions on external debt — which the government tries to offset by fiscal means in the short run. In the third view, the state indulges the desire to use revenue from the inflation tax in the absence of other sources.

Fiscal deficits thus have numerous causes — not all of them irrational, not all adding to aggregate demand. Reducing the deficit is nevertheless the sine qua non of orthodox stabilization packages. How does such austerity affect an economy's chances of achieving the normal policy goals of:

- Maintaining socially acceptable capacity use and growth?
- Keeping inflation tolerable?
- Altering the distributions of income and wealth?
- Maintaining self-reliance in trade and external finance?

It makes each of these tasks harder, because of the incomplete understanding of the likely effects of fiscal measures.

First, policymakers need to know more about the specific effects of different policies. For example, cuts in public investment may also cause private capital formation to decline. Changes in the prices that public enterprises charge for

food or essential services can have strong distributional repercussions. And the bidding up of interest rates can, if accompanied by other incentives, make capital repatriation and emigrant remittance more likely.

Second, fiscal measures should not be independent of other policy moves. If devaluation causes contraction, teaming it with fiscal restraint may lead to extreme losses of output — the overkill for which orthodox programs are often criticized.

Third, fiscal measures can sometimes substitute for other (less savory) policy changes. For example, the narrower and more directed fiscal interventions can avoid many of devaluation's unpleasant economywide effects (political visibility, output contractions, and price inflation because of the higher costs of imported inputs).

This paper is a background paper for the 1988 World Development Report. Please contact Rhoda Blade-Charest, room S13-060, extension 33754.

35. Improving the Allocation and Management of Public Spending

Stephen Lister

The reforms most needed to rehabilitate a developing country's planning and budgeting system are generally simple organizational measures, not sophicsticated analytical techniques.

When a country's planning and budgeting system is dilapidated, an important first step is to rehabilitate basic budgetary and accounting functions and to generate public expenditure data that can provide a starting point for rational planning. Other basic measures include:

- The budget process should first determine what resources are available and adopt aggregate revenue and expenditure targets. Then the entire set of public expenditure issues should be looked at simultaneously. If total expenditure is allowed to be the outcome of the aggregation of sectoral bids, the overall expenditure is almost certain to be unsustainable.
- The responsibility for reconciling expenditure bids with agreed overall targets must be decentralized. Sectoral ministries should be given ceilings within which to prepare their estimates.
- It is vital that recurrent and development expenditure programs be considered simultaneously in each sector, since a country's ability to sustain the recurrent costs arising from new investment may be doubtful. In restructuring recurrent budgets, it is important to establish "norms" for the level and distribution of expenditure to provide properly for key services.
- In the long run, the budgeting and planning process should be made public in order to educate public opinion about economic alternatives, build a consensus, and spread responsibility for public spending choices.
- Monitoring development projects and programs requires explicit information on actual expenditures of individual projects and the entire program, including simple breakdowns by implementing agency, sector, source of finance, and so on. For investment programs, it must be possible to relate expenditure information to a financial plan for each project. The use of standardized project profiles for all approved projects is an invaluable technique.
- The financial woes of developed countries increase the value of external aid and the leverage exercised by aid agencies. To minimize friction with aid agencies, governments should exercise careful aid management by monitoring project preparation and implementation, working to minimize project problems, and encouraging dialogue between the government and aid agencies.

This is a background paper for the 1988 World Development Report. Please contact Rhoda Blade-Charest, room S13-060, extension 33754.

36. Social Security Finance in Developing Countries

Douglas J. Puffert

Social security systems in developing countries can provide a pool of investment capital to spur economic growth. But many systems now showing surpluses may become insolvent because of poor management.

Social security systems usually cover less than 10 percent of the population of developing countries. Yet in a number of countries, these systems make up a large proportion of public sector revenues and expenditures.

Most social security systems in developing nations are running substantial surpluses. If the systems are to meet future obligations, reserve funds and surpluses should be invested in safe assets with real positive rates of return.

But many countries lack well-developed financial markets and good domestic opportunities for productive investment. The government usually controls social security systems — and often uses the surpluses to finance government deficits.

Economists are divided over how social security systems affect private saving and capital accumulation, which leads to long-term growth. They also disagree on the inefficiencies which social security systems introduce into labor markets.

It is clear, however, that investing social security funds in government securities increases the risk of the social security system's insolvency.

Governments facing fiscal difficulties find it tempting to expand the money supply and drive up inflation. This cuts government obligations to social security reserve funds by reducing the real value of the investments in government bonds.

There is also constant pressure for many governments to increase benefits without increasing contributions. Although such action is expedient, it often proves unsustainable. A government's ability to resist such pressure thus has a direct bearing on the long-term success of the system.

One system that stands out as sound, with wisely invested reserves, is the regulated private social security system in Chile.

This is a background paper for the 1988 World Development Report. Please contact Rhoda Blade-Charest, room S13-060, extension 33754.

37. Black Market Premia, Exchange Rate Unification, and Inflation in Sub-Saharan Africa

Brian Pinto

The black market premium on foreign exchange is an implicit tax on exporters. Therefore, eliminating the gap between the official and black market exchange rates without raising taxes or cutting government spending could raise inflation substantially.

The links between exchange rate and fiscal reform are developed for countries where the black market premium on foreign exchange is exceptionally high, often exceeding 100 percent, as has been recently observed in Africa. Exchange rate reform is motivated by the allocative goal of stimulating exports through real depreciation. By interpreting the premium as a tax on exports, it is argued here that this goal is equivalent to reducing the premium, or unification of official and black market exchange rates.

Unification also has fiscal implications. In the common case of government's being a net buyer of foreign exchange from the private sector, there is a trade-off between the premium (tax on exports) and inflation (tax on domestic money) in financing the deficit. Therefore, unification could raise the inflation substantially as the lost revenue from exports is replaced with a higher tax on money. This will occur even if real government spending remains constant, unless there is a fiscal response to compensate for the loss of export revenues.

The analytical ideas are illustrated with the unification experiences of Ghana, Nigeria, Sierra Leone, Zaire, and Zambia. In order to avoid costly surges in post-unification inflation as recently observed in Sierra Leone and Zambia, exchange rate reform may have to be slowed down to accommodate fiscal reform. This applies especially when the premium is high, with significant revenue and redistributive implications, and policy credibility is low. Even so, discrete maxi-devaluations might be preferable to accelerated crawls. Based on the country experiences, some guidelines are suggested for the transition to unified rates. Lastly, a changed emphasis in policy conditionality is argued for.

This paper is a background paper for the 1988 World Development Report. Please contact Rhoda Blade-Charest, room S13-060, extension 33754.

38. Intergovernmental Grants in Developing Countries

Larry Schroeder

The method a central government uses to transfer funds to local jurisdictions can greatly affect a country's development efforts. But the effects of the transfers are seldom analyzed, resulting in intergovernmental grant systems that fail to achieve their desired objectives.

A country's grant system is the product of its political environment. Such systems tend to develop over time in response to current political needs and then become institutionalized. Since they have developed in a haphazard fashion over time, grant "systems" commonly are not systems at all. Hard-pressed government ministries seldom undertake any thorough analysis of these arrangements, hence their overall impact is unknown in spite of the importance of this use of resources.

Grants from central governments become more important sources of local revenue as local governments are expected to play larger roles in the provision of public services.

Grants are used in hopes of achieving a wide variety of goals. One common rationale for intergovernmental grants is to redistribute national income or equalize living standards by helping governments deliver public services in economically depressed areas.

Since transfers may be seen locally as "costless" gifts from the higher level of government, there is little pressure on localities to mobilize resources of their own or to spend the funds efficiently. Few developing countries have the resources to conduct audits to ensure the accountability of local government spending.

The goal of assisting decentralized decisionmaking by transferring funds to local units can also conflict with the objective that central government revenues be spent efficiently. Decentralization implies local control over the use of funds; the desire for effective use of centrally collected funds calls for considerable oversight of local spending.

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39. Fiscal Policy in Low-Income Africa

Stephen A. O'Connell

Fiscal restraint, a precondition for economic recovery in much of Africa, should go hand-in-hand with improved public sector efficiency in delivering basic human services and upgrading infrastructure.

In many African nations, the fiscal balance is extremely fragile, so fiscal restraint is necessary for stabilization and adjustment efforts to succeed.

Governments tend to increase public expenditures when export commodity revenues are high — and maintain public spending even after revenues fall. This is a formula for building unmanageable debt. Botswana and Cameroon, which exercised restraint during boom times, are exceptions to the rule in Africa.

Inflation, driven by public spending, has serious consequences such as the erosion of the real value of taxes, adding to public deficits. However, attempts to reduce inflation through fiscal austerity may have undesirable side effects, if austerity is pursued in the wrong way when public sector real wages are driven down below subsistence, productivity is reduced.

Low public sector productivity results in poor delivery of human services, the deterioration of infrastructure, and low generation of revenue, hindering economic growth.

Fiscal deficits drove real exchange rates up in the late 1970s and early 1980s — and fiscal policy should now facilitate real depreciation adjustment by pulling deficits down.

External aid has often supported unsustainable fiscal policy. Far from lessening the need for structural adjustment, it should now be used for rehabilitation and infrastructure development.

Market-oriented exchange rates are not a substitute for fiscal restraint, but a complement. Flexible rates alone failed in Zambia and Sierra Leone. Combined with prior fiscal restraint, however, they succeeded in Ghana.

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40. Financial Deregulation and the Globalization of Capital Markets

Eugene L. Versluysen

Rapid financial deregulation and the globalization of capital markets have led to dangerous financial volatility that could have a destabilizing impact on major economies. To reduce this volatility, new regulation may be needed.

Financial deregulation in recent years has vastly increased the ability of financial markets to allocate international capital efficiently. It has also sparked explosive growth in financial transactions and resulted in a restructured, more competitive, and less costly financial services industry.

But deregulation has proceeded so rapidly that the volume of purely financial transactions now greatly exceeds that of transactions driven by international trade in goods and services. Financial activity is now "delinked" from other factor markets and increasingly driven by speculation for short-term profits rather than by broader economic activity.

This new pattern has led to growing economic uncertainty and instability. Markets now run around the clock and respond so rapidly that there is a growing danger of chain reactions that could precipitate global market failures.

Deregulation has also made the conduct of national monetary policy more difficult and the monitoring of markets more complex. For the United States, deregulation has increased the abillity to borrow abroad, thus contributing to fiscal laxity. In that country, there is a need for a single regulatory agency to coordinate the supervision of related financial activities — to lessen the risk of compounded market failures.

Some countries, such as England, have moved to strengthen the capitalization of banks and securities firms. Others (Canada, France, Italy, and Spain) are making progress. But there is acute need for improvement in the United States, where many large banks are undercapitalized in relation to their exposure on LDC loans.

Regulators in the major trading nations need to address the possibility of a full-scale breakdown of the financial system.

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41. Urban Property Taxation in Developing Countries

William Dillinger

The property tax can be an efficient, equitable means of financing municipal services in developing countries, but in most countries it needs reform.

The property tax is the most widely used source of municipal tax revenue in the developing world, but its current yield is often insubstantial.

Poor policy often sets tax rates too low, offers excessive exemptions, and fails to adequately respond to inflation. Poor administration results in incomplete tax rolls, haphazard valuations, and low collection efficiency.

To increase the yield and improve the fairness of the tax, both the policy and administrative problems must be addressed. Tax reform too often consists of a one-time general revaluation or rate increase. Taken alone, neither has a sustained impact on the property' tax's performance.

Tax policy must ensure that rates are set high enough to make the tax worth collecting. Where significant inflation exists, a policy of annual adjustments in rates or valuations should be instituted.

Administrative reforms should support simple procedures for property discovery and valuation, suited to the characteristics of the local tax base and the skills to the taxing authority. Procedures for updating property records to reflect changes in the tax base deserve particular attention. Collection systems should be designed to make compliance convenient; and noncompliance subject to costly, swift, and sure penalties.

Central governments can achieve reform on a nationwide scale — even where the property tax is locally administered — by delivering standardized packages of training and technical assistance to local governments.

This is a background paper for the 1988 World Development Report. Please contact Rhoda Blade-Charest, room S13-060, extension 33754.

42. Government Pay and Employment Policies and Government Performance in Developing Economies

David L. Lindauer

Excessive spending on public employment has contributed signicantly to fiscal crises in many developing nations. Less visible, but also important for development, is the impact of pay and employment policies on government performance.

Governments should pay more attention to the influence of pay and employment policies on their ability to provide goods and services efficiently.

Rapid and sustained expansion of government employment is common in developing nations. Governments often find it politically difficult to dismiss public workers, even in the face of rising deficits.

An increase in public employment without a commensurate increase in complementary inputs can add to labor redundancy. Increases in salary costs may also crowd out expenditures for materials, equipment, construction, infrastructure, and other inputs.

Many governments use public jobs as a means of lowering urban unemployment. This frequently results in a bottom-heavy structure, with employment concentrated in lower salary grades, and far too many workers for managers to use effectively.

It is also common for governments, in times of fiscal crisis, to reduce the relative pay of more skilled and experienced personnel rather than fire less skilled and redundant labor. This prompts some managers and professionals to quit and leads others to reduce their work effort or moonlight. It also takes a toll on civil service morale and discipline.

A recent study of government policies in Sub-Saharan Africa found, for example, widespread declining levels of real pay, especially at higher salary grades, and excessive compression of the government pay structure. These policies have contributed to growing government inefficiency.

Government employment practices need to be reformed not only because growing wage bills are outpacing tax and export revenues, but also because effective public administration is so important to development. In many countries, a smaller, better-paid civil service might outperform a larger, more poorly paid work force. Because government economic and social roles are so large in many countries, better performance would mean faster development.

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43. Tax Administration in Developing Countries: Strategies and Tools of Implementation

Tax Administration Division, IMF Fiscal Affairs Department

Developing nations should adopt less sophisticated taxes (such as taxes on goods and services) to broaden the tax base, and use more efficient administrative technique (such as withholdings and computerization). At present, potential tax bases are often not exploited because the application of existing law (particularly for income taxes) is not possible.

In many developing nations, tax administrators often make their own policy because they are unable to enforce the laws.

Administrators face major problems: A large portion of the economy is at a subsistence level and does not keep records. Where records are kept, accounting is not reliable. Taxpayer cooperation is also low for a variety of reasons: shortage of trained officials, a tradition of corruption, and because taxes are not often seen to produce better government services.

These problems induce governments to rely heavily on trade taxes. But this is costly. Export taxes tie revenue to unpredictable export commodity prices which aggravates fiscal stabilization problems. Import duties lead to excessive protection of inefficient domestic industry.

Administrative problems also lead to the selective collection of income tax. This discriminates against the most accessible target: the modern sector of the economy, which is crucial to growth and development.

Governments should shift away from trade taxes to consumption taxes, such as sales tax, particularly of the value added variety. They should also move toward more broadly based income taxes (including interest and dividends – not just wages), with *realistic* rates. Assessment based on "presumptive" rather than actual calculation methods can also help extend the tax base to the self-employed, to subsistence farmers, to traders, and to smaller firms.

The single most effective way to improve tax administration is to use a system of income withholdings (for all components of income). Another important tool is computerization. This can simplify withholding and collection by giving each taxpayer a number in a master file. Computers also facilitate information gathering, cross checking, and audits.

This is a background paper for the 1988 World Development Report. Please contact the World Development Report office, room S13-060, extension 31393 (38 pages).

44. The Size and Growth of Government Expenditures

David L. Lindauer

Over the last 20 to 30 years government spending as a share of GDP has grown worldwide. But in comparing developing and developed nations, the current levels, growth rates, composition, and determinants of government expenditures exhibit significant differences.

The growth of government in the developing economies is compared with the experience of the industrial countries. Relying on measures of government expenditure as proxies for government size the following is observed:

- In the developing nations, central government expenditures as a share of GNP range from 10.8 percent to 62.1 percent and exhibit greater variance than is found in the industrial countries.
- Developing economies, especially the low-income nations, devote, on average, smaller percentages of GDP to government spending than do OECD countries. But compared with the historical experience of the industrial nations, low and middle income nations already consume much higher fractions of GDP.
- For the last 20 to 30 years, expansion in the share of government spending as a percentage of GDP appears to have been the norm in both developing and developed countries.
- Transfer payments in developing nations are still at low levels when compared with advanced economies but appear to be growing quickly. Government consumption expenditures tend to be growing faster than GDP.
- Available data make it difficult to draw firm conclusions about what increases in government input costs versus increases in level of public output contribute to the growth in public spending.

Numerous arguments can be raised to explain why the size of government relative to GDP has grown in most developing nations. Demographic factors, preferences for public provision of goods and services, and increasing unit costs of government production are all likely to have been influential. Development theorizing itself as well as the "demonstration effect" of advanced capitalist and socialist economies may also have played a role.

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45. How Much Do State-Owned Enterprises Contribute to Public Sector Deficits in Developing Countries — and Why?

Govindan Nair and Anastasios Filippides

State-owned enterprises in developing countries contribute substantially to public sector deficits — partly because they tend to rely on capital-intensive production techniques and subsidization (through price controls) of output. More attention must be paid to cost effectiveness and cost recovery.

Data for 1980-85 show that value added by state-owned enterprises (SOEs) in developing countries hovers at around one-tenth of GDP at market prices. In this they are comparable to SOEs in industrial countries.

In another respect they are different: their share of gross investment averages three times their share of value added. This reflects the relatively capital-intensive nature of SOE activities in developing countries, possible biases toward capital-intensive production techniques, and heavy subsidization (through price controls) of SOE output.

On the whole, SOEs in developing countries contribute substantially to public sector deficits, typically finance less than one-fifth of their investment, contribute far less to national savings than to national investment, and contribute heavily to the savings-investment imbalance in many countries. Countries differ in how they finance the SOEs' savings-investment gaps, but often the SOEs account for much of the outstanding external debt and at the same time draw heavily on government budgets.

Some SOE expenditures — particu-

larly on investments in infrastructure — are crucial to a nation's development and to the alleviation of poverty. But reducing SOE deficits and keeping them from becoming a long-term drain on public finance will require more attention to cost effectiveness and cost recovery in SOE expenditures and more rigorous appraisal of SOE investments.

This is a background paper for the 1988 World Development Report. Please contact Lupita Mattheisen, room S13-067, extension 33757.

46. The Management of Public Expenditures: An Evolving Bank Approach

Robert Lacey

The key to better management of public spending, including investment programming, lies in the ***process*** *by which programs are identified, prepared, approved, and implemented. Strengthening this process should lead to expenditure programs that are a more appropriate size and are more attuned to overall development goals.*

The Bank is paying increasing, though still unsystematic, attention to the institutional dimension of public expenditure management. This implies analysis of the processes and procedures by which programs are put together with an assessment of the strengths and weaknesses of the institutions involved and the links between them. Advising governments on these aspects requires more expertise than most Bank staff members possess. The Bank should develop staff skills in this area through:

- Better coordination in the Bank of public expenditure reform issues.
- More intensive, systematic staff training, and more contact with academics and other outside experts through such vehicles as seminars.
- Closer collaboration and more systematic exchange of views between operational staff and the Policy, Planning, and Research complex, including incorporation of feedback from the seminars held by the Economic Development Institute.
- A closer working relationship with the IMF, especially the Fiscal Affairs Department.
- Development of a well-designed program of operationally oriented, detailed case studies of specific country experiences (successes and failures) from which to draw lessons for future operations and country and economic sector work.

Addressing these issues may also have implications for the type of lending instrument the Bank uses. Reforms of public spending are usually dealt with through structural adjustment loans, backed up by technical assistance operations — but these may not always be suitable. If major policy decisions are required to bring about important long-term structural changes, a broader, more flexible lending instrument may be more appropriate.

One approach being explored is to finance a time slice of the country's public investment program (either on a sector-by-sector or aggregate basis, depending on the scope of the reforms to be introduced) to support not only more appropriate programs but also institutional and procedural reforms of the ways in which public expenditures are prepared and implemented. This approach could combine quick-disbursing balance of payments support with the longer-term approach needed to encourage institutional reform.

This is a background paper for the 1988 World Development Report. Please contact Lupita Mattheisen, room S13-067, extension 33757.

47. Considerations for the Development of Tax Policy When Capital Is Internationally Mobile

Robert F. Conrad

For tax policy to encourage maximum investment of capital (both foreign and domestic) it is necessary to take into account the potential mobility of capital across international borders. Economic analysis of investment incentives should therefore incorporate the effects of variables such as source rules, nexus rules, attribution rules, foreign tax credits, and so on, in addition to traditional variables such as legal tax rates and the revenue implications of the distribution of the tax base.

To encourage investment and savings, policy-makers cannot ignore capital mobility even in situations where domestic nationals do not invest abroad and foreign investors do not invest domestically. The potential for capital to move across international boundaries creates an opportunity cost for investment in a particular country and throughout the world. In determining marginal effective tax rates it is necessary in addition to traditional considerations, such as tax rates and the distribution of the tax base, to incorporate the following factors:

- Source rules (the basis for taxation).
- Nexus rules (which define who must file and pay income taxes).
- Attribution rules (about accounting methods).
- The scope of bilateral accommodation between countries.

None of these factors is superior economically to the others as a basis for determining tax policy. If tax policy is to encourage international capital flows, explicit tradeoffs may have to be made between increased tax revenues and incentives to invest.

In addition, tax policy should be evaluated with respect to *net*, not gross, capital flows. Tax policy that increases foreign investments in a capital importing country by X percent is poorly designed if it increases the flow of domestic investments abroad by a larger percentage.

International capital mobility provides both costs and opportunities for developing tax policy within a country. Since investors treat taxes as a cost of doing business, each country's tax price should reflect its opportunity cost of investment (either foreign or domestic). These tax prices will differ between countries. Uniformity of taxes across countries can therefore distort rather than improve investment. As long as there is reasonable competition among the suppliers of capital, tax competition among governments may make distribution within the system more efficient. In such a context international cooperation may not be the best method for the development of tax policy for factors that are internationally mobile.

Equity across countries, however defined, should be measured by how the net benefits of capital investment (including tax revenues) are distributed — *not* by how the tax base is distributed. In par-

ticular, tax treaties should not be evaluated solely on revenue potential nor should they be canceled unilaterally. Instead they should be evaluated on pragmatic grounds in terms of their effects on investor confidence and their administrative costs.

This is a background paper for the 1988 World Development Report. Please contact Lupita Mattheisen, room S13-067, extension 33757.

48. Do Taxes Matter? A Review of the Effect of Taxation on Economic Behavior and Output

Jonathan Skinner

Taxes that are moderately distorting are potentially the most damaging because their effects may be substantial yet go unnoticed.

Taxpayers are most concerned about the private burden (costs) of taxation as measured by what they pay to the government. However, taxes can generate a net gain to society if governments use the revenues wisely. Economists, on the other hand, are more concerned about the social burden (costs) of taxation independently of the way in which the revenue is used. Taxes change prices and factor returns (wage rates, the rate of return on capital, and so on). When taxes are imposed, consumers and producers try to avoid the tax by consuming or producing less of the taxed item (good, activity, or income). The extent of avoidance accelerates with increases in the tax rate. This distortion of taxpayer behavior reduces their welfare and results in a net ("deadweight") loss to society when markets are functioning well.

To illustrate this broader welfare notion of the economic inefficiency of taxation, some heuristic examples are chosen, first from historical and then from more recent accounts. It is shown that in some cases the behavioral effect of taxation is dramatic (for example, in production, trade, and consumption) while in other cases the evidence is mixed (for example, in savings and investment). In general, very low tax rates have little impact on economic behavior, while very high tax rates generate efficiency costs that nobody can ignore. However, when taxes are moderately distorting, they have the greatest potential to damage as their welfare effects are likely to be substantial but difficult to measure quantitatively.

The latter half of the paper reviews the literature on a more direct but narrower measure of the incentive effects of taxation: how do taxes affect output growth rates? Some new evidence on this issue is provided using a comprehensive sample of 111 countries. Empirical estimates from this cross-country data show the growth rate of output to be negatively correlated with the level of government spending but positively correlated with the growth rate of government spending. Estimates of the effect of tax rates on output growth rate are also mixed: they are sometimes negative, sometimes zero.

This is a background paper for the 1988 World Development Report. Please contact the World Development Report office, room S13-060, extension 31393 (38 pages).

49. Public Sector Pricing Policies: A Review of Bank Policy and Practice

DeAnne Julius and Adelaida P. Alicbusan

Six sectors — health, education, housing, fertilizer, ports, and railways — have made little attempt to incorporate efficiency pricing into public sector pricing. And most sectors pay far too little attention to fiscal objectives in public pricing.

Nearly a decade has passed since the Bank codified its position on cost recovery policies for public sector projects, in Operational Manual Statement (OMS) 2.25. OMS 2.25 recommended that a common analytical framework be used in all sectors to determine appropriate pricing guidelines and cost recovery targets. That framework involved two steps:

- Estimating efficiency prices — prices that would maximize the net economic benefit from the project.
- Adjusting those prices to take into account nonefficiency objectives (distributional, fiscal, or financial) and implementation constraints.

In a review of 13 sectors, the authors have found that those Bank guidelines are followed fairly closely in seven sectors: coal, irrigation, oil/gas, power, roads, telecommunications, and water/sewerage. In these sectors, the approach has proven effective in accommodating economic, distributional, and financial objectives — primarily through carefully designed tariff structures.

In the other six sectors the focus is heavily on either distributional (health, education, housing) or financial (fertilizer, ports, railways) concerns — with little attempt to incorporate economic pricing principles.

Efficiency pricing is not irrelevant or impossible in these sectors, and — even if used only as a benchmark — could improve sector management and project selection and design.

The fiscal dimension of public sector pricing has received little attention in most sectors. In view of the serious constraints on growth that several less developed countries face because of scarce fiscal resources, this is a major shortcoming — and deserves priority attention in the formulation of future price recommendations.

This is a background paper for the 1988 World Development Report. Please contact Lupita Mattheisen, room S13-067, extension 33757 (122 pages with tables).

50. Fiscal Policy and Stabilization in Brazil

Celso Luiz Martone

The "heterodox shock" approach to stabilization is based on a flawed concept of inflation. The countries that entered this path are likely to remain for a long time under a controlled economy, sacrificing their growth potential for some stability in income distribution and less explosive inflation.

The theoretical basis for the "heterodox shocks" recently implemented in Argentina and Brazil is that chronic inflation is essentially inertial — the product of staggered prices and wage adjustments. The underlying assumption is that the economic process is a cooperative game. Without legal and other forms of coercion, however, individuals tend to cheat — to fix their prices above average to start with.

The inertial hypothesis of inflation is a good description of the dynamics of inflation but it is *not* a theory of the nature of inflation — so the proposed

remedy (the "heterodox shock") cannot be implemented successfully.

Moreover, applying that kind of shock destroys the spontaneous operation of the price system by suppressing the information content conveyed by prices and by distorting the allocation of resources.

Once a government engages in such an experiment, it is led to repeat it periodically to survive. The countries that entered this path are likely to remain for a long time under a controlled economy, sacrificing their growth potential on behalf of some stability in income distribution and less explosive inflation.

Eventually this "muddling through" policy may break down, precipitating hyperinflation and consequent structural changes — but this does not seem to be an imminent or even a necessary outcome.

A basic flaw of the "heterodox" stabilization programs was to assume that stabilizing the price level (through a general freeze) was a precondition for fiscal equilibrium and eventual fiscal reform — instead of the reverse. The fiscal austerity promised after stabilization was never accomplished — blocked by bureaucrats and special interest groups interested in maintaining the status quo. The challenge in these countries is to devise economic programs that could make long-term stabilization programs viable and politically acceptable.

In this sense, stabilization is less a technical economic problem than an intertemporal political problem of how to compensate the losers, on the one hand, and on the other hand to convince the majority that the trade-off between sacrificed current consumption and increased future consumption is worthwhile. The precarious political systems in these countries have been unable to deal with conflicts and support consistent long-term policies.

This is a background paper for the 1988 World Development Report. Please contact Lupita Mattheisen, room S13-067, extension 33757 (36 pages with charts and tables).

51. On Participating in the International Capital Market

V. V. Bhatt

Developing countries should participate actively in the international capital market as well as in the Uruguay Round of multilateral trade negotiations on services, to seize export opportunities relating to skill-intensive services – such as financial services and computer software, in which countries like India may have a comparative advantage.

Since 1970, the international credit market has grown in size and sophistication. It offers developing countries many opportunities to meet their growing need for external resources, to manage optimally their foreign exchange assets and liabilities, to accelerate their pace of development, and to expand export possibilities in financial services (particularly relevant for countries like India).

It is essential for developing countries to participate in this market, but to do so they must develop institutional and policy frameworks that help them establish their creditworthiness, integrate their domestic financial markets and organically link them to the international capital market, and develop appropriate institutional expertise and technology.

India is one of the few developing countries capable of developing the expertise and technology needed to participate in the international capital market. It is urgent that India do so qu8ickly, to reduce the foreign exchange cost of operating in this market and to enlarge its export effort.

To take advantage of export possibilities for financial and other services and products, developing countries should also participate actively in the Uruguay Round of multilateral trade negotiations on services.

The idea is to open up opportunities to export skill-intensive services – such as financial services and computer software, in which countries like India may have a comparative advantage. Increased competition would also tend to improve the domestic financial system, which would stimulate productivity and investment in the productive sectors.

Confrontation and rhetoric about special and differential treatment are self-defeating in these negotiations and give more discretionary power to administrative authorities in the developed countries. Without a negotiated system of multilateral rules, it is easier for the economically strong countries to dominate the weaker ones through political and economic power.

This is a background paper for the 1989 World Development Report. Please contact the World Development Report office, room S13-060, extension 31393 (36 pages with tables).

52. Financial Innovation and Credit Market Development

V. V. Bhatt

The function of a central bank is to promote financial innovations that enlarge the capital market by introducing new credit instruments, cultivating new markets, and introducing new institutional structures. The central bank's goal should be to reduce overall costs and risks on credit transactions.

Marx, Shumpeter, Kuznets, and others have written about how technical innovations affect economic development, but little attention has been paid to how financial and fiscal innovations affect development.

Financial innovations tend to reduce transaction costs and risks – both subjective and objective – and thus to expand and integrate capital markets. Financial development accelerates the pace of economic development by encouraging savings and investment and increasing output.

Public or government intervention – through a government's central bank – is essential to a sound credit system.

A central bank in a developing country must have a development orientation. The single most important criterion of central bank effectiveness is the extent to which the bank's policies reduce overall costs and risk on credit transactions.

To perform its regulatory function effectively and to promote a sound, healthy financial or credit system, a central bank must have a degree of autonomy. Since 1965 this autonomy has been eroded in both the developed and the developing countries because of the im-

pact of fiscal policy.

The result has been unstable credit and the international debt crisis, which already affect the development process and the functioning of international credit markets.

This is a background paper for the 1989 World Development Report. Please contact the World Development Report office, room S13-060, extension 31393 (32 pages with tables).

53. Venture Capital and Entrepreneurial Development

Fernan Ibañez

The same doubts being expressed about the possibilities for venture capital in the developing countries were expressed a decade ago about Europe and the Far East, two regions where venture capital is now growing fast. Venture capitalists tend to invest in good entrepreneurs, not good projects.

Venture capital is a temporary-equity or quasi-equity investment in a growth-oriented, usually small or medium-size business managed by a highly motivated entrepreneur. Management assistance often comes with the investment. For the investment, the investor expects either a minority share in the company or the irrevocable right to acquire it.

Unlike traditional investors, venture capitalists prefer good entrepreneurs to good projects – and minority rather than controlling interest, which tends to turn an entrepreneur into an efficient employee. Collateral often takes the form of such intangible assets as research results, innovative marketing ideas, or technical skills. Venture capitalists usually expect more risk and a longer initial period of negative cash flow than traditional investors.

Venture capital cannot be expected to grow in the developing countries at the same pace as it did in its early years of development in the United States and Canada. But there is no reason to believe that enabling conditions cannot be improved so that it can contribute to industrial and entrepreneurial development in the Third World. The same doubts being expressed about venture capital in the developing countries were expressed a decade ago about Europe and the Far East, two regions where venture capital is now growing fast. In many countries, the right conditions already exist for venture capital to succeed.

Governments can create an enabling climate for venture capital by improving the macroeconomic environment, trying to change attitudes about risk and entrepreneurship, improving information and infrastructure, and providing and promoting the availability of venture capital funds.

Hard facts about venture capital are scarce, as participants have not been eager to spread the word about the results of their investments. Most of the information available is through self-promoting success stories. The Bank might consider:

- A systematic review of the experience with venture capital in selected countries.
- Interviews with investee companies to assess the impact of different types of investment.
- Assessing the efficiency of different types and procedures of investment.
- Comparing the results of equity and venture financing with conventional or developmental term credit financing.
- Analyzing the essential characteristics of a successful entrepreneur.

This is a background paper for the 1989 World Development Report. Please contact the World Development Report office, room S13-060, extension 31393 (38 pages).

54. Bank Restructuring in Malaysia, 1985-88

Andrew Sheng

Malaysia's experience illustrates the pervasive microeconomic effects – particularly in the financial sector – of structural adjustment to external shocks. Effectively tackling financial distress requires both macroeconomic policy adjustments and changes in banking legislation and supervision – to address the problems of fraud and poor bank management that often emerge in times of financial distress.

Between 1983 and 1986, Malaysia embarked on a structural adjustment program to control its fiscal and balance of payments deficits.

In reaction to the shock of sharply declining commodity prices (at a time of heavy commitments on public expenditures), the Malaysian government drastically cut back on public spending and allowed the exchange rate to depreciate freely.

A sharp decline in export income, combined with rising import costs and reduced public spending, caused severe disinflation – which manifested itself in an increased number of nonperforming loans in the financial sector. This culminated in the failure of 24 deposit-taking cooperatives in mid-1986 and required the central bank to inject substantial fresh capital to aid three commercial banks.

Losses to ailing financial institutions between 1985 and 1986 amounted to as much as 4.7 percent of 1986's GNP. The Malaysian authorities adopted several rescue packages and bank restructuring exercises to protect depositors – including a unique plan for converting deposits into equity (the 50:50 solution).

Malaysia's experience shows that structural adjustment to shocks emanating from changes in the external environment have pervasive microeconomic effects, particularly in the financial sector.

Effectively tackling financial distress requires both macroeconomic policy adjustments and timely changes in banking legislation and in the machinery for supervising banks – to address the problems of fraud and poor bank management that typically emerge in times of financial distress.

This is a background paper for the 1989 World Development Report. Please contact the World Development Report office, room S13-060, extension 31393 (37 pages with charts and tables).

55. Financial Liberalization in Developing Countries

Bela Balassa

Higher real interest rates increase financial intermediation, which in turn raises the rate of economic growth in developing countries.

McKinnon and Shaw define financial liberalization to mean the establishment of higher interest rates that equate the

demand for, and the supply of, savings. The two authors express the view that higher interest rates will lead to increased savings and financial intermediation as well as to improvements in the efficiency of using savings.

In turn, van Wijnbergen and Taylor claim that higher interest rates on time deposits do not necessarily lead to increased financial intermediation because of shifts from curb markets, which are not subject to the reserve requirements that apply to time deposits. This means that the authors contrast distortions due to reserve requirements with distortions due to interest rate limitations on time deposits.

Abolishing excessive reserve requirements would eliminate distortions while prudential considerations point to the conclusion that reserves should be held against time deposits and against curb market liabilities as well. At the same time, substituting time deposits for unproductive assets — such as gold, cash, and commodity stocks — will increase the extent of financial intermediation. Increases in savings will have the same effect while increased efficiency in the use of savings will add to economic growth.

Balassa summarizes available empirical evidence, indicating that higher real interest rates increase the extent of financial intermediation while increased financial intermediation raises the rate of economic growth in developing countries. Reference is also made to empirical evidence on the effects of interest rates on savings cited in the author's "The Effects of Interest Rates on Savings in Developing Countries." Furthermore, evidence is provided on the effects of interest rates on investment efficiency and on economic growth.

The paper notes, however, that excessively high interest rates will have unfavorable economic effects. Such a situation can be avoided if the liberalization of the banking system takes place under appropriate conditions, including monetary stability and the government supervision of the banks. This would further the goal of establishing equilibrium interest rates.

Domestic financial liberalization may eventually be followed by the liberalization of the capital account. But this would have to be preceded by trade liberalization to avoid unnecessary resource shifts.

Domestic financial liberalization has been traditionally discussed in terms of interest rate levels whereas the liberalization of the capital account would lead to the equalization of domestic and foreign real interest rates, with allowance for exchange rate changes. But there are also other important issues relating to interest rates. These include flexibility over time, the avoidance of interest subsidies, an appropriate structure of rates according to maturity, and interest rate differentials reflecting risk.

More generally, there is need in most developing countries for improvements in the functioning of the financial sector.

This paper is a product of the Office of the Vice President, Development Economics. Please contact the World Development Report office, room S13-060, extension 31393 (26 pages).

56. The Effects of Interest Rates on Savings in Developing Countries

Bela Balassa

Time-series estimates for individual countries and cross-section and time-series estimates for a number of countries show the positive effects of interest rates on savings.

This paper provides evidence on the effects of interest rates on savings in developing countries. While the evidence is not conclusive, time-series estimates for individual countries as well as cross-section and time-series estimates for a number of countries point to the positive effects of interest rates on savings. At the same time, a variety of factors may have reduced the statistical significance of the estimates.

First of all, estimates of savings in developing countries are subject to considerable error. These estimates are usually obtained as the difference between domestic investment and foreign saving, both of which are observed with error. There are poor data on domestic fixed investment and, especially, on inventory accumulation that constitute domestic investment. In turn, foreign saving is derived as the difference between exports and imports, both of which are observed with considerable error.

Also, while ideally the estimate should relate to personal saving, such data are rarely available in developing countries — hence the inclusion of business saving and government saving that do not respond to interest rates. There are further errors associated with the measurement of interest rates and inflation rates, which are necessary to derive real interest rates.

At the same time, people may not react to small transitory changes in interest rates. In fact, the effects of interest rates on savings appear to be the strongest in countries, such as Korea, where large changes in interest rates occurred.

Finally, there is evidence that negative real interest rates bring a shift to gold, real estate, and consumer durables, which latter are included in savings as measured in national income statistics. There is further evidence of capital flight in response to higher interest rates abroad.

This is a background paper prepared for the 1989 World Development Report in the Office of the Vice President, Development Economics. Please contact the World Development Report office, room S13-060, extension 31393 (24 pages).

57. Financial Distress of Industrial Firms on the Greek Banking System

Dimitris Antoniades and Dimitris Kouzonis

The failure or distress of a number of Greek industrial firms has hurt Greek banking — and reform of Greece's financial system is a prerequisite for industrial restructuring.

Since the late 1970s, industrial activity in Greece has been deteriorating rapidly. An increasing number of industrial firms have experienced distress and failure.

About 40 percent of manufacturing enterprises reported losses during 1979-86. Since 1982, the manufacturing industry overall has reported a negative net income.

Because of their extensive indebtedness, the widespread distress of industrial companies has affected the soundness of Greek banks — especially the state-controlled commercial banks that account for more than 70 percent of Greek deposit and loan markets.

The financial position of Greek banks has been further undermined by large losses in nonmanufacturing companies — especially construction and engineering.

Distress and failure in Greek industrial firms must be dealt with through broad macroeconomic, financial, and industrial reform. Antoniades and Kouzionis outline the main goals or targets of reform in three areas:

Macroeconomic reform

• Reducing inflation and the public deficit.

Financial reform

• Free interest rates determined by market conditions.

• Reduction of the public deficit and the public sector borrowing requirement (progress on this front is expected to be slow).

• Modernization of banking activities, particularly of portfolio management capabilities.

• Prudential regulation and supervision of banking, aimed at restoring investor confidence through more transparent activities.

• A stronger capital market, with more tradable bonds and other securities and eventual reorganization of the stock market.

Industrial restructuring

• Repayment of the foreign debt of problematic companies through the Business Reconstruction Organization (OAE).

• Repayment of domestic debt through a combination of methods.

• Systematic liquidation of nonviable companies.

• Restructuring of problematic but viable companies. Sometimes this means consolidation, but often — particularly in one large textile company — it means breaking the company up into smaller, more flexible units.

This paper, a background paper for the 1989 World Development Report, is a product of the Office of the Vice President, Development Economics. Please contact the World Development Report office, room S13-060, extension 31393 (28 pages with tables).

58. Macrofinancial Indicators for 117 Developing and Industrial Countries

Craig R. Neal

Reducing inflation is the only sustainable way to increase the size of a country's financial system and thus promote the economic efficiencies associated with bank financial intermediation. Raising nominal deposit rates to fully offset higher inflation requires maintaining progressively higher real deposit rates. These real rates can reach unsustainable levels even at "only" double-digit inflation rates.

Based on macrofinancial data from 117 developing and industrial countries for the year 1985:

• Regression analyses indicate that higher inflation lowers overall financial depth, whereas higher nominal deposit rates raise it. However, the effects of inflation are more corrosive than nominal deposit rates are salutary. Consequently, raising nominal deposit rates to fully offset higher inflation requires maintaining progressively higher real deposit rates. These real rates can reach unsustainable levels even at "only" double-digit inflation rates.

• Analyses of variation indicate that overall financial depth, nonmonetary financial depth, and the weighted real return on financial assets vary systematically across geographical region and across per capita income groups (a proxy for wealth or development). In contrast, monetary depth is broadly similar across both income groups and geographical regions — except in the EMENA region (Europe, the Middle East, and North Africa), which is unusually deep (reflecting exceptionally high M1:GDP ratios in six of the 18 sample countries).

• Deep financial systems typically reflect nonmonetary depth, except in the countries of EMENA, where they reflect monetary depth.

Although Neal could not determine which factor is responsible, either anomalous macrofinancial behavior or poor data quality (or both) produce odd results when the data from the Sub-Saharan region are used in the regression analyses.

The appendix lists the following macrofinancial indicators for each of the 117 countries: The ratio of liquid liabilities (of the financial system) to GDP — financial depth, the ratio of quasi-liquid liabilities to GDP — nonmonetary depth, and the ratio of M1 to GDP — monetary depth. Also listed are: Per capita income, inflation rates, and the weighted real return on financial assets (the liquid liabilities of the financial system).

This paper, a background paper for the 1989 World Development Report, is a product of the Office of the Vice President, Development Economics. Please contact the World Development Report office, room S13-060, extension 31393 (57 pages with figures and tables).

59 - 60 Assigned to the background papers of the World Development Report

61. Student Performance and Schools Costs in the Philippines' High Schools

Emmanuel Jimenez, Vicente Paqueo, and Ma. Lourdes de Vera

Private schools in the Philippines are substantially more effective than their public counterparts in teaching language skills, and much less costly per pupil than public schools.

A key consideration in the policy debate on the appropriate role of private schools in predominantly public school systems is cost effectiveness. The questions are: Do private school students learn more than their public school counterparts? And is it more or less expensive to educate students in private schools?

Past studies in the Philippines and elsewhere have claimed that the educational achievement of students in the private schools is higher than that of students in public schools. These studies provide, however, only weak evidence regarding the relative cost effectiveness of public and private schools. A fundamental weakness is the potentially serious problem of selectivity due to unobserved differences between the student population of each type of school. Most of the studies do not compare costs in the two types of institutions.

Taking selectivity into account, the paper finds that controlling for the effects of students' socioeconomic background, individual motivation, and innate ability, the private schools show a significant edge over public schools in both English and Pilipino (about 15 percent of the sample mean achievement scores). Public schools, on the other hand, had a slight (roughly 4 percent) advantage in mathematics.

A comparison of cost per student reveals a substantial advantage for private schools: public schools in the Philippines spend on average roughly twice as much

as private schools. These findings strongly suggest that private schools are an efficient purveyor of secondary education in the Philippines, a conclusion that should be taken into account in the formulation of policy measures that could threaten the existence of such schools.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

62. Universities in Arab Countries

George I. Za'rour

The quality of higher education in the Arab world has suffered because of the rapid growth of university systems. Despite popular demand, several Arab governments are questioning the wisdom of continuing to expand these systems.

Half the Arab universities in existence today were established after 1970. Enrollment has increased even faster — leading to overcrowding, unqualified faculty, and insufficient equipment and facilities.

Several Arab nations have already moved to control (in some cases, to reduce) enrollment. They have done this partly because of the fall in oil revenues and partly in recognition of the problems related to the rapid growth of the university systems.

Open admissions policies in some systems have led to high failure and dropout rates, as well as to the shunting of many students by default into "schools of last resort:" the arts, social sciences, and law.

As student enrollment expanded rapidly, the quality of education suffered and many universities became less attractive to highly trained faculty. This pattern has contributed to national and regional brain drain.

Overcrowding has also led to a greater reliance on lecturing as a means of instruction, a method not particularly conducive to the development of critical or incisive thinking. Faculty accessibility and strong faculty support for student development seem to be the exception rather than the rule at many Arab universities.

Instruction in French or English, sometimes necessary because of a shortage of Arabic-speaking faculty and a lack of appropriate Arabic texts, hurts students not proficient in those languages.

The cost of underwriting university education at a time of slow economic expansion raises the issue of whether it is better to have unemployed high school graduates or unemployed university graduates.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

63. Does Japan Import Less Than It Should?

Kenji Takeuchi

Conflicting studies on Japan's imports of manufactures leave open the question of whether the country's import volume is lower than normal.

Japan's continuing large current account surpluses have promoted a series of investigators to examine the volume and the structure of the goods that Japan imports.

The usual charge is that Japan's level of manufactured imports is too low and that it is low because Japan has erected a wall of trade barriers that limits access by foreign suppliers of manufactured goods. Recent studies have looked at this question to see if Japan's overall imports are lower than they should be, and specifically if Japan imports fewer manufactures than other industrial countries.

A review of the econometric literature gives diverse results. Gary Saxonhouse, Luca Barbone, Marcus Noland, and C. Fred Bergsten and William Cline found no strong evidence that Japanese imports are abnormally low when allowances are made for economic circumstances. But other economists came to the opposite conclusion. Bela Balassa, Kazuo Sato, and Robert Z. Lawrence concluded that Japanese imports were distinctly lower than other countries. Geoffrey Carliner tended to support the latter group.

Japan does import a lower volume of manufactures, why is that so? Is it because of trade and tariff barriers, the Japanese marketing system, or the tastes of Japanese consumers? None of the studies resolved these questions.

This paper is a product of the International Trade Division, International Economics Department. Please contact Jean Epps, room S8-037, extension 33710.

64. Cocoa and Coffee Pricing Policies in Côte d'Ivoire

Takamasa Akiyama

Facing increasingly tough international competition in coffee and cocoa markets, Côte d'Ivoire can increase export revenues from the two commodities 8 percent in 1995 and about 12 percent in 2000 by increasing coffee production and cutting back on the expansion in cocoa production.

Coffee and cocoa are Côte d'Ivoire's two most important commodity exports, accounting for about 50 percent of total exports. In the 1970s, Côte d'Ivoire capitalized on high world prices and a drop in production by other competitors to increase revenues from these crops, but in the mid-1980s the situation changed. Falling world prices and an appreciating currency cut into sales of Ivorian coffeee and cocoa at the same time that international supplies mounted. Brazilian coffee growers increased production after the previous year's drought, and production of cocoa rose in Ghana, Malaysia, and Indonesia. As several major producers backed up their export efforts with aggressive exchange rate policies, Côte d'Ivoire's exporters lost their competitive position.

To offset the slump in revenues, the government will have to reverse this decline in competitiveness. A study of the markets for both these commodities under different pricing and subsidy policies confirms that coffee production should be increased, even at the cost of some reduction in the output of cocoa. This will avoid large government subsidies to cocoa growers and will increase future exports of both products.

One way to do this is to devalue by 10 to 15 percent. Alternatively, the government could reduce cocoa producer prices and increase coffee producer prices. Although either of these policies would overcome short-term problems, a more

fundamental change should be considered. Under current market conditions, government-established producer prices are no match for rapidly changing world markets and exchange rates. Unless Côte d'Ivoire adopts a flexible pricing policy, the country may face continuing problems in international competitiveness.

This paper is a product of the International Commodity Markets Division, International Economics Department. Please contact Dawn Gustafson, room S7-044, extension 33714.

65. Interaction of Infant Mortality and Fertility and the Effectiveness of Health and Family Planning Programs

Howard Barnum

Health and family planning programs can draw on each other's strengths to lower the number of births and reduce infant mortality.

The interaction of fertility and infant mortality is well established. Lower infant mortality can lead to lower fertility by reducing the need for replacement births. Conversely, birth spacing improves the chances of child survival. To find out how these programs reinforce each other, a study done in Indonesia estimated the effects that family planning programs have on infant mortality and the effects of reduced infant mortality on fertility. The research compared the cost-effectiveness of health and family planning programs and looked at whether the interaction of infant mortality and fertility influenced estimates of the costs of both programs.

The results demonstrate a substantial spillover effect, confirming that the interaction does raise the cost-effectiveness of both programs. And the study shows that nonhospital health care is substantially more effective than hospital care at reducing infant mortality.

These findings are sufficiently consistent that policymakers should consider the mortality-fertility interaction as a regular part of the appraisal of health and population projects. Integrated programs offer lower costs and more effective promotion. They also improve efforts to assure infant survival and achieve birth prevention objectives.

This paper is a product of the Population, Health and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091.

66. Slowing the Stork: Better Health for Women Through Family Planning

Anthony R. Measham and Roger W. Rochat

Family planning saves lives and improves the health of women through fewer births, fewer high-risk pregnancies, and fewer crudely performed abortions.

Each year 500,000 women die from causes related to pregnancy — 99 percent of them in developing countries. While many of those pregnancies are unwanted and could have been prevented by family planning, only a minority of developing country couples use effective contraceptive methods. For some women, pregnancy represents a major health risk. Many of them are among the poorest of the poor, living in rural areas of South Asia and Sub-Saharan Africa, and have low education, high fertility, and poor health and nutritional status.

There is also a huge pool of women of lower risk who want no more children and whose health would benefit substantially from limiting the number of children they bear. In virtually all developing countries, the number of women who want no more children exceeds the number of contraceptive users. What factors determine women's use of contraceptives, and how can family planning programs reach the large numbers of women at risk from further pregnancies?

The most successful family planning policies offer women a variety of contraceptive methods tailored to specific age groups and educational levels. Community-based programs that provide a high quality of family planning services and emphasize the importance of the mother's health will increase the likelihood that these programs will reach women who are not practicing contraception at present.

The question that is always asked is, What will it cost? Much program experience suggests that family planning is one of, if not the most cost-effective means of averting maternal deaths. The savings generated by family planning services could be invested in saving the lives and health of women who do want to have more children.

This paper is a product of the Health Advisor, Population and Human Resources Department. Please contact Amelia Menciano, room S6-278, extension 33612.

67. Price and Tax Policy for Semi-Subsistence Agriculture in Ethiopia

Robert D. Weaver and Saad Ali Shire

Tax and food price policies are important mechanisms for affecting smallholder food supply.

In the case of semi-subsistence agriculture where wage employment is not available, the role played by prices and taxes in determining production and consumption decisions is not clearly established by economic theories of household choice. This study demonstrates that where choices in production, consumption, and leisure can be made independently, farmers will decide what to grow on the basis of their preferences for marketed goods, and will also be affected by the level and type of taxation.

The model shows the impact of four taxes — agricultural revenue, land (either a head tax or a tax based on land area), production, and marketed goods consumption — on crop production and tax revenues. The results demonstrated that a production tax curtailed output while a lump-sum land tax expanded production. The impact of a tax on agricultural revenue or on products sold in the market depends on the farmers' preferences for marketed goods.

For Ethiopia, a model of production was estimated for eight food crops for semi-subsistence households. In general, production responded to changes in relative expected prices, land availability, level of household demand, and sowing period rainfall. Production of teff, wheat, chick peas, and sorghum was found to increase with higher prices, and production of field peas was found to fall. Evidence suggests that expanding the amount of arable land will raise farmers' output of wheat, chick peas, maize, and sorghum.

These results give strong evidence of

the role of producer and consumer prices in semi-subsistence agriculture. In addition, the results show the importance of production capacity, household demand, and climatic factors, supporting a balanced approach to agricultural development that recognizes the joint roles of prices, production capacity, and demand.

This paper is a product of the International Commodity Markets Division, International Economics Department. Please contact Dawn Gustafson, room S7-044, extension 33714.

68. Domestic Lighting

Robert van der Plas

Electric lights are superior to kerosene lamps in almost all ways — they are far more energy-efficient, but their high front-end costs keep many people from enjoying their advantages.

The average amount of fuel consumed for lighting is much higher in villages without electricity than in villages with it — five times higher in Indonesia, twice as high in India. Moreover, people with kerosene lamps have much lower lighting levels than people with electric lights.

Why, then, do people still use kerosene lamps when electricity is available? Mainly because they fit well with a poor family's spending patterns. The price of a wick lamp is low. The monthly cost of using it is low. And kerosene can be bought in small quantities as needed.

But the marginal cost of adding another kerosene lamp is greater than the marginal benefit. The addition of another lamp neither increases the level of lighting nor improves the quality — but it does increase the consumption of kerosene.

People have figured this out. A survey of a few households in Rwanda and Burundi in October 1987 showed that households relying on kerosene wick lamps use only one for the whole house.

Households with electric lights are accustomed to much higher levels of light — for which they have to finance a connection charge and installation cost and for which they pay more for regular use. Such households typically have four or five lamps in the whole house and good lighting levels in each room.

The difference between kerosene and electric lamps are like those between bicycles and cars: both get you where you want to go but at certain costs with certain benefits. Although both kinds of lamps give light, they are not directly comparable because they differ so greatly in their characteristics: it takes 18 kerosene lamps to give off the light of a single 60 watt incandescent bulb.

This paper, a product of the Household Energy Unit in the Energy and Sector Management and Assessments Division, Industry and Energy Department, has also appeared as an Industry and Energy Department Working Paper. Please contact Vonica Burroughs, room S3-002, extension 36060.

69. Does Local Financing Make Primary Schools More Efficient? The Philippine Case

Emmanual Jimenez, Vicente Paqueo, and Ma. Lourdes de Vera

Philippine schools that rely more heavily on local sources of income are more cost-effective than those that are more dependent on central funding.

In the highly centralized system of the Philippines, local funding provides the only source of flexibility to meet specific and urgent needs.

The government in Manila, which pays all teacher salaries, finds it easier politically in times of fiscal belt-tightening to cut recurrent costs. Although local funds are relatively small percentage of the education budget, they make an important contribution to covering maintenance and operating costs. For example, the quality of both textbooks and school buildings appears to increase with the level of local funding.

The total cost of education per student also appears to lower in schools with greater local financing, regardless of the perceived quality of the school. Administrators and teachers have greater incentive to be cost-effective when forced to consider the effect of their behavior on the people who live and work in the local community.

The policy implications of these findings for the Philippines are important. They strongly suggest that decentralization will increase efficiency. Without an increase in local funding, the quality of primary education will suffer. Other developing nations, facing similar situations, might also consider more community funding for school systems.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

70. Vocational Education and Economic Environments: Conflict or Convergence?

Arvil V. Adams and Antoine Schwartz

Macroeconomic policies have a direct impact on the ability of a nation to provide vocational education and training efficiently.

A better understanding of the relationship between economic policies and human capital formation through vocational education and training (VET) will help both development strategists and education planners.

Income policies that make the market less competitive, although designed to correct social inequality, often distort the demand for VET and lead to inefficiencies in its delivery:

- Effective minimum wage policies make enterprises less willing to provide skills training financed by reduced wages.
- Government regulated wage structures that result in wage compression, as seen in many developing countries, reduce the incentive of workers to invest in skills training.

Capital subsidies, and other relative factor cost distortions, may encourage the adoption of capital-intensive technologies that are inconsistent with a country's occupational skills mix and skills training resources. Such distortions will also debase the value of existing skills by accelerating their depreciation.

Trade policies can also influence incentives for efficiency in VET.

- Protectionist trade policies provide shelter to inefficient domestic producers and reduce the market incentives for efficiency in VET.
- Export-led trade policies, coupled with competitive markets for capital and labor, tend to encourage the search for cost-effective forms of VET.

Making economic policymakers

aware of the consequences of their policies for human resources development will hopefully lead to the more sensitive development of these policies. By the same token, making those responsible for the development of education and training programs aware of the constraints economic policies provide to their actions will hopefully create opportunities for adapting to these constraints. The paper offers an agenda for the further study of this relationship and its outcomes.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

71. School Effects on Student Achievement in Nigeria and Swaziland

Marlaine Lockheed and Andre Komenan

Student achievement is directly related to effective teaching practices, which differ from country to country. Conventional school and teacher quality variables are found less effective in boosting learning than teaching quality variables.

Multi-level analyses showed that differences between schools accounted for substantial variance in eighth grade mathematics scores in Nigeria and Swaziland. However, conventional school and teacher quality variables, such as class size, length of school year, and teacher education and experience had no effect on student achievement.

The study — the first completely comparable cross-national comparison of school/classroom effects in Africa — shows that differences in achievement not attributable to student family background are largely due to differences in teaching quality (teacher's use of time for lecturing, testing, etc.).

This finding is important because little research has been conducted in developing countries to test the assumption that enhancing student achievement depends on the ability of teachers to manage the learning environment. The study indicates that the size, direction, and shape of the relationship between teaching time use and student achievement vary from one country to another.

In Nigeria, student time spent listening to the teacher lecture was positively associated with achievement, while time spent doing seat or blackboard work had a negative impact. In Swaziland, by comparison, seat and blackboard work had positive effects, but listening to lectures was unrelated to achievement.

Teaching time spent monitoring and evaluating student performance had good results in Swaziland, but no effects in Nigeria. In Swaziland, the use of published materials was negatively related to achievement, while in Nigeria the use of textbooks had a positive effect.

Teacher effectiveness depends on finding the appropriate mix of alternative uses of instructional time. Since this seems to differ according to the locale, more local research on teaching quality is needed.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

72. The Relative Efficiency of Public Schools in Developing Countries

Emmanuel Jimenez, Marlaine Lockheed, and Vicente Paqueo

Private schools are a cost-effective option for expanding secondary education in some developing countries. They may also provide some lessons for improving the efficiency of public schools.

In many developing countries, the national commitment to universal education conflicts with the necessity for fiscal restraint. One option for expanding education is to charge fees for public schooling.

But recent World Bank studies of secondary level data in Thailand, Colombia, Tanzania, and the Philippines point to a second, more cost-effective option: rely on private schools to handle the growing demand for education.

Private school students generally outperform public school students on standardized math and language tests. This finding holds, even after studies account for the fact that, on average, private school students in these countries come from slightly more advantaged backgrounds than their public school counterparts. In addition, school expenditure data show that unit costs for private schools are dramatically lower than those of public schools.

The comparative advantage of private schools has important policy implications for public schools. Some efficiency gains can come from replicating the input mix (teacher/student ratios, teacher qualifications) of private schools. The data show that private schools, among other practices, make more efficient use of teachers and have better teaching processes (more tests, more homework, orderly classrooms).

Also effective would be to mimic the organizational incentive structures of private schools. Their administrators have considerable economic and bureaucratic autonomy, and are motivated to encourage better teaching practices — using staff more effectively and cheaply — because they must compete for students and remain accountable to parents who pay the bills.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

73. Taxation and Output Growth in Africa

Jonathan Skinner

A revenue-neutral shift from import taxes and personal and corporate levies to sales or excise taxes may increase growth rates in developing countries.

Can tax policies be designed to encourage economic growth in developing countries? One view holds that by providing the government with a stable source of funding and reducing the current account deficit, tax revenues encourage long-term growth. In this view, the economic distortions aggravated by tax rates are slight in comparison to such institutional constraints as price controls, foreign exchange allocations, and trade quotas.

The other view is that high marginal tax rates constrain long-term economic development by discouraging business expansion, investment, and foreign trade. The contention is that the benefits of a carefully designed, moderate tax structure exceed the costs of budget defi-

cits or spending cuts.

This paper tests these views by measuring the effect of government spending and taxation on output growth. In theory, higher tax rates shift investment and employment to sectors with low — or even negative — tax rates, such as import-substitution or underground sectors. The lower returns to investment and labor in these sectors mean that the economy will generally record lower growth rates.

Data from 31 African countries show the medium- and long-term effects of fiscal policies on growth during 1965-73 and 1974-82. Government investments for the earlier period were sufficiently productive to justify the distortions imposed by the relatively high tax rates necessary to finance them. By 1974-82, however, the return on government investments had fallen to almost zero, suggesting that the burden of personal and corporate taxes led to a contraction in growth. Although taxes on imports did not affect output directly, such taxes reduce investment and thereby indirectly curtail growth. On balance, sales and excise taxes had the most moderate effects on growth and investment.

In sum, a balanced increase in government spending financed by sales and excise taxes, or by a shift from personal and corporate taxes to consumption taxes, can increase growth rates.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699.

74. Fiscal Stabilization and Exchange Rate Instability

Andrew Feltenstein and Stephen Morris

Cuts in public spending can, in some cases, be inflationary and should be coordinated with appropriate exchange rate and monetary policies.

A perfect foresight, intertemporal general equilibrium model can be used to analyze the fiscal impact of reductions in public spending. The model permits a consistent analysis of government spending, deficit financing, and exchange rate behavior.

It incorporates features important to analyzing public policy in Mexico, including the cost of producing government infrastructure, a tax system and government exchange rate policy similar to those in Mexico, and the estimated savings behavior of domestic consumers.

Mexican public spending increased from 25.6 percent of GDP in 1973 to 46.5 percent in 1982. This rise was accompanied by dramatic increases in inflation, the government deficit, and external debt.

Policymakers look at such a situation and automatically conclude that stabilization depends on reduced public spending. But when applied to Mexican data for 1983-85, the model shows that public spending cuts alone may be inflationary if they cause a reduction in the productivity of private capital.

The model does not estimate the elasticity of private output to public infrastructure. But even if low elasticity is assumed, spending cuts may produce a reduction in private productivity that will have an undesirable effect.

A decline in productivity may outweigh the impact of falling monetary growth rates and reduced budget deficits. If it does, the benefit of spending on infrastructure outweighs its costs. If, however, government spending produces no useful infrastructure, a reduction in spending will have the desired result of reducing inflation.

Various simulations with the model indicate that dogmatic recommendations for spending cuts can at times be counterproductive.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699.

75. Welfare Dominance and the Design of Excise Taxation in the Côte d'Ivoire

Shlomo Yitzhaki and Wayne Thirsk

The concept of conditional welfare dominance can be used to determine which excise taxes are preferable, both for equity and administrative feasiblity. Applied to Côte d'Ivoire, the technique shows that the most effective excise taxes would be on electricity and telephone services.

There is a compelling fiscal rationale for encouraging greater reliance on taxing the consumption of electricity and telephone (ET) services.

ET taxes are easy to administer. Enforcement and collection of the tax is relatively inexpensive, since the tax can be added to commercial charges, and the services quickly turned off for nonpayment. It is not difficult to distinguish in most cases between business and personal use of these services. ET taxes avoid the problems of smuggling and evasion commonly associated with taxing the production or use of commodities that can be imported.

On equity grounds, in Côte d'Ivoire at least, ET taxes are clearly the most desirable excise taxes. Ranking alternative commodity taxes with high income elasticity, telephone services clearly dominate — and electricity consumption nearly dominates — the taxation of alcoholic beverages and public transportation.

These conclusions on the distributive impact of alternative indirect tax measures are reached through the application of the relatively new concept of marginal conditional welfare dominance. A commodity tax dominates others on social welfare grounds when a marginal shift in the balance of commodity taxation toward that particular commodity enhances social welfare.

Using household budget data, such dominance can be established statistically and shown graphically without resort to normative considerations. This approach suggests that ET services may be an underexploited tax base in many developing countries.

ET taxes may also meet the test of relatively high efficiency if they can be implemented through a two-part pricing schedule that charges a flat fee for access to service and an additional escalating fee for marginal use.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699.

76. The Shadow Price of a Tax Inspector

Shlomo Yitzhaki and Yitzhak Vakneen

To make sure that tax collectors do not abuse their powers and that taxpayers obey the law, governments can analyze the tax administration's methods of selecting and inspecting tax returns.

The effects of tax evasion on tax rates and government revenues have focused fresh attention on the question of tax administration. Because of the difficulties of measuring the consequences of good or bad administration, policymakers cannot rely on a wide range of specific information on this subject.

An economist faced with widespread tax evasion is likely to recommend harsher penalties for violations of the tax law. The argument is that compliance and high penalties go hand in hand. But stiffer penalties only work when the administrators are honest; if they are not, the recommendation may backfire as high penalties increase the power of the tax inspector, and provide incentive for corruption.

Using this model, which shows the process of auditing tax returns as a decision tree, governments can verify that the additional power is not abused and that the administration is efficient. The main idea is to introduce economic considerations into the process of selecting and inspecting tax returns. By calculating the investment in the inspector's time at each stage (the taxpayers is likely to appeal), and the increase in revenue that will result, it is possible to calculate the minimum amount of tax evasion that justifies continuing with the audit — the shadow price of a tax inspector.

The administration can recommend that auditors only pursue a file if the tax increase is high enough to justify continuing the process. By equalizing the return per unit of time, the administration gives the same treatment to all taxpayers. If the guidelines are followed, the productivity of the inspectors will improve as well.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699.

77. Incentive Policies and Agricultural Performance in Sub-Saharan Africa

Bela Balassa

It has often been said that Sub-Saharan African countries do not respond to price incentives because of rigidities and inflexibilities in their economic structure. This is not the case, however, as this paper shows.

Exports in general, and agricultural exports in particular, are more responsive to price incentives in Sub-Saharan Africa than in developing countries as a whole. These are the results of an econometric investigation on the effects of real exchange rates on exports. It further appears that in Sub-Saharan Africa the impact of real exchange rates is greater on agricultural exports than on the exports of goods and services.

Within Sub-Saharan Africa, market-oriented countries generally gained, and interventionist countries lost, export market shares as the former, but not the latter, group of countries maintained realistic exchange rates and did not appreciably bias the system of incentives against exports. The differences in policies, and in export performance, are even greater if comparisons are made between private market economies and étatist countries in a three-fold classification scheme that puts some countries in an intermediate category.

These results are supported by the findings of a World Bank study on agricultural exports in Eastern and Southern Africa. According to this study, industrial protection and overvalued exchange rates adversely affected the exports of the region. Another Bank study has found that in Sub-Saharan Africa agricultural growth rates were higher in countries whose currency depreciated, than in countries whose currency appreciated, in real terms.

Kenya and the Ivory Coast exemplify market-oriented, and Tanzania and Ghana interventionist, countries in Sub-Saharan Africa. Pairwise comparisons between Kenya and Tanzania and between the Ivory Coast and Ghana have indicated the superiority of the market-oriented approach in promoting exports and agricultural production.

This paper is a product of the Office of the Vice President, Development Economics. Please contact Norma Campbell, room S9-047, extension 33769.

78. Economists, Institutions, and Trade Restrictions: A Review Article

J. Michael Finger

Experts on international trade analyze the "new" rationale for trade intervention and conclude it is neither new nor rational.

Experts on the new economics of trade restrictions address such questions as:

Are there holes in the case for free trade?

It is difficult to know when there is profit to be captured by trade intervention and difficult to design the appropriate trade intervention policy. A tariff will sometimes capture the foreign profit while a quota will give away the domestic, or vice versa, and as Gary Saxonhouse observes, "Capturing a strategic sector and its attendant economic rents may be very important for firm equity holders without being of much significance for the economy as a whole."

Why are trade restrictions imposed?

Trade policy is often aimed at noneconomic objectives. About one sanction in three succeeds in its objective. Is this score good or bad? According to Stephen Krasner, "Since economic sanctions are likely to be used only when other policy instruments fail, this level of success is indeed surprising."

According to Rudiger Dornbusch and Jacob Frankel, "Net foreign demand is a more important determinant of protectionism than domestic demand." (Protection is provided mainly to offset losses of sales to foreign competition, not to compensate for losses attributable to an internal cause such as a shift of demand away from the product.)

How do U.S. policy actions and those of other nations interact?

Says the reviewer: "The two principles of policy advice that this book brings forward, 'Rules, not discretion,' and 'Tit-for-tat retaliation,' could be used both to endorse most of the protectionist legislation submitted to the U.S. Congress in the past 20 years, and to indict the GATT as wrong-headed. This is probably a result of policy interpretations made for the convenience of analytical models rather than analysis fitted to the facts of policy."

Says the reviewer about the "us" these economists represent:

We produce a quality product.

We sell it very poorly.

We place self-destructively narrow limits on the topics we will analyze.

This paper is a product of the International Trade Division, International Economics Department. Please contact Nellie T. Artis, room N10-013, extension 38010.

79. Quantitative Appraisal of Adjustment Lending

Bela Balassa

Up to 1987, the average decline in the GDP growth rate in adjustment loan recipient countries was less than in the comparator groups. Similar results are obtained for per capita GDP.

This paper presents a quantitative analysis of adjustment programs in developing countries that received structural adjustment loans or sectoral adjustment loans (for short, adjustment loans) from the World Bank. The method applied has involved examining changes in various performance indicators following the receipt of the first adjustment loan, further contrasting the results with those for comparator groups of countries that did not receive adjustment loans.

At the same time, the loan recipient countries made an adjustment effort in the period following the first loan. To begin with, economic expansion was concentrated in the traded goods sectors, industry and agriculture, both of which experienced an improvement in the loan recipient countries relative to the comparator groups. Also, the growth of consumption declined substantially in absolute terms as well as relative to the non-recipient countries. In turn, an acceleration is observed in the growth of investment that holds the promise for future economic growth.

Furthermore, the average export growth rate fell less in the loan recipient countries than in the comparator groups and a much larger number of countries experienced an improvement than a deterioration relative to the non-recipients. The loan recipient countries also attained a substantial improvement in their current account balance position as their domestic savings ratios declined less than in the comparator groups. Finally, the loan recipient countries improved their relative position as far as external debt indicators are concerned.

Inflation, as measured by the consumer price index, decelerated in a majority of countries receiving adjustment loans vis-à-vis the comparators, although the average increased substantially due to hyper-inflation in Bolivia. In turn, money supply growth rates increased more in the loan recipient countries than in the non-recipient countries while real discount rates increase in the majority of the loan recipients. Finally, expenditure-GDP ratios increased less in the loan recipient than in the non-recipient countries.

Data have also been provided for loan recipients and non-recipients in Sub-Saharan Africa, low-income countries, lower middle-income countries, and upper middle-income countries. The results show that the relative position of loan recipients improved in three out of four country groupings in regard to per capita incomes, the exception being Sub-Saharan Africa.

The quantitative appraisal of adjustment programs thus points th the overall success of these programs. This conclusion is strengthened if use is made of weighted performance indicators, the weights being the number of times a country received an adjustment loan. Weighting improves the relative performance of the loan recipients in regard to practically all economic growth indicators, as well as for export growth, domestic savings, external debt, inflation, money supply growth, the real discount rate, and the government budget balance while little difference is shown in regard to the rest of the indicators.

This paper is a product of the Office of the Vice President, Development Economics. Please contact Norma Campbell, room S9-047, extension 33769.

80. Emerging Issues of Privatization and the Public Sector

Samuel Paul

Privatization in developing countries has been modest, with little contracting out of services and a wide gap between plans and achievements — but the push for privatization has limited expansion of public enterprises.

Pressure to move toward privatization has mounted in the face of severe economic crises. Privatization in developing countries has focused almost exclusively on the divestiture of industrial and commercial enterprises, not public utilities or sectors characterized by monopoly. The pace of privatization has been slow and its impact modest. The reasons include the limited resources in the private sector (and popular resentment of foreign investors), the resistance of such important interest groups as labor unions, and the inability of many governments to prepare adequately for the complex tasks of privatization. But as a result of the push for privatization, or reprivatization (the divestiture of nationalized enterprises that were once private), some countries have resisted starting new public enterprises or expanding old ones. And some governments have encouraged joint ventures (with private partners, shareholders, or employees) to limit the flow of government funds and to make public enterprises more responsive to market pressures.

Among developing countries, divestiture has been most effective in Chile and Bangladesh. Africa has moved slower than Latin America. Many developing countries have preferred more informal liquidation of public enterprises — through "mothballing" and slow death (by denial of funds) — because it attracts less adverse publicity than outright divestiture.

Privatization tends to increase efficiency, but only if managers face a competitive rather than a monopolistic environment — which may require not only the sale of public enterprises but bidding for franchises, breaking up monopolies, and removing entry barriers.

Certain issues recur with privatization and the contracting out of services, particularly in the developing countries: the ways competition and ownership affect performance, the tension between multiple objectives (such as generating more cash yet lowering the price of shares to widen ownership), and the proper balance between the enterprise's autonomy and the government's role in regulating market power. The long-term benefits of privatization will not materialize if these issues aren't thought through.

Contracting out of services, an important feature of privatization in Britain and the United States, is rare in the developing world, with such exceptions as Argentina and the Ivory Coast. Contracting out, which is generally assumed to be simpler than privatization, is most effective when competition exists among suppliers, and when government is inexperienced at delivery of the services being contracted out but has incentives to pursue efficiency and is committed to overseeing the contractors.

This paper is a product of the Public Sector Management and Private Sector Development Division, Country Economics Department. Please contact Ernestina Madrona, room N9-057, extension 37496.

81. Reaching People at the Periphery: Can the World Bank's Population, Health, and Nutrition Operations Do Better?

Richard Heaver

How can field workers be expected to serve their most needy clients when program designers seldom try to identify and target these clients, understand their feelings and behavior, or monitor whether they are being reached?

Many population, health, and nutrition (PHN) programs are designed to elicit behavior changes in poor people living at the geographic and social peripheries.

Few programs specifically target the disadvantaged, however, and research about clients focuses mainly on routine statistics rather than on whether education and services do or will meet clients' needs.

The health sector, in particular, has little understanding of what clients feel and why they behave as they do. Yet this is precisely what PHN program designers must know to increase acceptance of public health services among clients most inclined toward early mortality and least likely to accept family planning.

PHN program design should be reoriented to:

- Learn about clients' perceptions and behavior.
- Target the clients most in need of services.
- Give public sector providers of service stronger financial and nonfinancial incentives to understand and reach out to clients.
- Make more use of private or community-based delivery systems that are responsive to client needs.
- Carry out more studies that evaluate program responsiveness to clients.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, Room S6-065, extension 31091.

82. Microeconomic Theory of the Household and Nutrition Programs

Dov Chernichovsky and Linda Zangwill

Whether a nutrition program works depends on whether, and how, individual households make use of it.

Lack of food is no longer the major cause of malnutrition. Many households and individuals remain malnourished when income and supplies of food are inadequate. Nutrition policy and programs must be based on sound knowledge of household behavior patterns. Any increase in household resources, whether through policy programs or through growth and development, stops at the household. The family can allocate the added resources in any way it sees fit — and often does so in ways that are incompatible with better nutrition and related goals.

Taboos about introducing solid foods for infants and appropriate foods during pregnancy and nursing do not change because there is more food in the house. The "shadow" price of food, at the household level, involves such considerations as whether family members understand the nutritional value of foods; are better off selling than eating the food they grow; value time spent earning income more than time spent preparing food or breastfeeding infants (and hence turn to processed foods and bottle feeding); or experience a psychological cost in eating certain foods (as Jews or Moslems would in eating pork, for example).

The microeconomic theory of the household focuses on the household's decisionmaking about scarce food resources based on such considerations as:

- The size of the family.
- The purchasing power of the family.
- The availability of healthful foods.
- The family's food preferences.
- Environmental variables (such as ethnic traditions and the homemaker's level of education).
- Family health (disease can limit the absorption of nutrients).

Such determinants should be monitored to anticipate malnutrition problems unrelated to food supplies.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091.

83. Welfare Costs of U.S. Quotas on Textiles, Steel, and Autos

Jaime de Melo and David Tarr

Protectionism is popular but costly: the United States loses $21 billion a year in welfare costs through quotas on textiles, steel, and autos.

Nontariff barriers prevent a transition to the realities of international competition, and their welfare costs are huge.

The United States loses an estimated $14 billion a year in revenues through rents lost to exporting countries through export quotas. Add another $7 billion for distortionary costs.

Removing the remaining tariffs (an average 3.5 percent in 1984) would produce a welfare gain of about $0.9 billion — for a net benefit of $105 billion, measured in terms of the discounted value of displaced workers' lost earnings over a lifetime.

This paper is a product of the Trade Policy Division, Country Economics Department. Please contact Karla Cabana, room N10-037, extension 37946.

84. Black Markets for Foreign Exchange, Real Exchange Rates, and Inflation: Overnight versus Gradual Reform in Sub-Saharan Africa

Brian Pinto

Inflation could rise permanently and substantially as a result of unifying official and black market exchange rates, even if real government spending remains constant.

The black market foreign exchange premium is an important implicit tax on exports, creating a conflict between the fiscal goal of financing government spending with a limited menu of tax instruments and the allocative goal of stimulating exports. The premium is solved for in a model that includes the portfolio balance approach to exchange rates, dual exchange markets, and seignorage for financing the fiscal deficit.

The steady-state and dynamic implications for inflation of floats as a vehicle for unifying official and black market rates are then analyzed. Inflation could rise substantially in the new steady state as the lost revenue from exports is replaced with a higher tax on money. Further, the conditions under which undershooting or overshooting occur are parameterized.

The paper is motivated by and illustrated with recent examples from Sub-Saharan Africa.

This paper is a product of the Trade Policy Division, Financial Operations Department. Please contact Sheila Fallon, room N10-017, extension 38009.

85. Wage Responsiveness and Labor Market Disequilibrium

Ramon E. Lopez and Luis A. Riveros

Core unemployment may not affect market wages; transient unemployment does. Policymaking should reflect the distinction.

Core unemployment corresponds to the structural and natural components of open unemployment, while transient unemployment is associated with the labor market impact of cyclical fluctuations.

Core unemployment may not significantly change market wages because it is associated with distortions in the labor market, a mismatch between jobs and workers, and normal turnover.

Core unemployment has persisted in Colombia, which has one the highest unemployment rates in Latin America.

Argentina, which has the lowest unemployment rate in Latin America, experiences relatively higher cyclical employment fluctuations.

Wage policies would be less effective in improving the labor market in Colombia than microeconomic policies — including measures to deregulate the labor market, reduce the wage gap between the formal (protected) and informal (unprotected) sectors, increase labor mobility, and provide more training or job information.

Stabilization and other policies to induce wage flexibility are more appropriate for dealing with cyclical unemployment.

This paper is a product of the Debt and Macroeconomic Adjustment Division, Country Economics Department. Please contact Luis A. Riveros, room N11-061, extension 37465.

86. External Balance, Fiscal Policy, and Growth in Turkey

Ritu Anand, Ajay Chhibber, and Sweder van Wijnbergen

How did Turkey — alone among high-debt countries — sustain high real growth after rescheduling its debt? Can it continue on a high growth path and manage its external debt?

Since Turkey rescheduled its debt, its real GNP has grown 5 percent a year — compared with an average 1.2 percent for other high-debt countries.

How did Turkey translate the extra breathing space it got from foreign financing into sustained high real growth?

Turkey's financing needs for large public sector deficits generated high medium-term inflation and high real interest rates. But the thrust of Turkey's program was to keep savings and interest rates up and to improve export performance.

Turkey's well-directed public expenditure program supported the private sector through key investments in infrastructure, special incentives, and credit for export and investment.

Turkey also inherited substantial excess capacity from heavy investment made in the 1970s. This allowed for a quick improvement in output and exports once the exchange rate was aligned.

External debt does not threaten Turkey's creditworthiness. Internal adjustment is necessary for consistency with inflation targets, but tighter external policies are both unnecessary and potentially damaging to Turkey's growth prospects and internal balance.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ajay Chhibber, room S9-041, extension 33776.

87. Vocational and Technical Education in Peru

Peter Moock and Rosemary Bellew

Peruvian vocational and technical students often end up working in the same jobs for the same earnings as academic students — probably because teaching in both streams is largely "chalk and talk" and vocational and technical education students get little "hands-on" technical experience in school.

The costs of the academic and the vocational and technical education (VTE) streams in Peru are very close. What's more, the monetary returns to, and occupational profiles of, graduates of the two streams are almost identical — with one exception.

For the self-employed who live in urban areas outside Lima, the returns to secondary technical education are significantly lower than the returns to secondary general education. This may be because the quality of VTE programs for urban students outside Lima is generally lower than the quality of education for academic students in the same areas.

Why, for other groups, do the two educational streams produce almost identical returns and graduates with similar occupational profiles? VTE institutions, funded at the same level as academic institutions, can't afford the inputs that make VTE genuinely technical, so the students get little "hands-on" technical experience in school. Despite declared differences in emphases and goals, programs and curricula in the two streams are substantially alike — largely "chalk and talk."

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

88. Costs, Payments, and Incentives in Family Planning Programs

John A. Ross and Stephen L. Isaacs

Countries differ in whether they charge clients for different forms of birth control,

offer them free, reward people for using them, or penalize people for not using them.

Governments in developing countries — concerned about rapid population growth and the rising costs of family planning programs — face difficult ethical and practical considerations in deciding how to recover costs yet stimulate family planning.

Policies vary widely. Sri Lanka, for example, charges for pills and condoms, offers IUDs and injectables free, and pays the acceptor for sterilization.

Pakistan and the Republic of Korea charge for resupplies of pills, condoms, and spermicide and pay the acceptor for sterilization. Bangladesh and Nepal give resupply methods free and pay the acceptor for sterilization (and, in Bangladesh, for using the IUD).

Turkey, on the other hand, charges for sterilization but provides IUDs, pills, condoms, and diaphragms free. Jordan charges for the IUD and offers the pill free.

Some countries offer community incentives for achieving family planning goals. Some offer families incentives for remaining small. Several countries, especially in Asia, impose penalties on families that exceed the norm.

What practical and ethical considerations shape these policies? This paper reviews current practices and policies in developing countries and considers the ethical issues that each kind of incentive and disincentive raises.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091.

89. Export Quota Allocations, Export Earnings, and Market Diversifications

Taeho Bark and Jaime de Melo

Countries adopting voluntary export restraints (VERs) often choose a two-tier quota allocation system, with extra sales to the nonrestricted market at below marginal costs. One result may be the recent increase in antidumping cases.

Countries adopting voluntary export restraints (VERs) often adopt a two-tier export quota allocation system. This system involves a "basic" allocation to the restricted market and an "open" allocation to the nonrestricted market — analogous to sales in one market financing sales in another market.

The two-tier system allows the flexibility required to diversify exports in nonrestricted markets, while fulfilling the established quota in the restricted market. This diversification exacts a cost because it results in extra sales at below marginal cost.

A rationale for pursuit of the two-tier system can be found in the recent history of VER negotiations, in which discussions of VERs between two major trading partners spread to other trading partners as well.

The recent increase in antidumping cases may in part be associated with the adoption of two-tier quota allocation systems.

This paper is a product of the Trade Policy Division, Country Economics Department. Please contact Karla Cabana, room N10-037, extension 37946.

90. A Framework for the Analysis of Mineral Tax Policy in Sub-Saharan Africa

Robert F. Conrad and Zmarak M. Shalizi

Overreliance on production sharing and resource rent taxes can expose small, open economies that are neither diversified nor wealthy to unacceptable risks and fluctuations in revenue.

Given the dual role played by the government as resource owner and tax collector in many Sub-Saharan economies, it is important to separate "resource factor payments" from taxes through the use of different instruments. The instruments to be considered are:

- A factor payment system that includes "ad rem" or "ad valorem" royalties. Production sharing, resource rent schemes, and fixed fees could also be used, but *some form of unit payment is necessary* and justified, because natural resources in the ground are inputs into the production process. Determined in a reasonable manner, such a royalty would signal the opportunity cost of extraction and development, capture the "natural resource rent" and offer an acceptable level of risk to the country.
- A cash-flow and withholding-tax system, initially for the mineral sectors and eventually for other sectors of the economy. The cash-flow tax would capture a share of the "economic rent" from each sector and be neutral across sectors. The withholding system would enable application of an income (as opposed to a consumption) tax base at the individual level.
- A depletion account to preserve the economy's capital stock. Natural resources are part of an economy's capital stock, which will fall unless "replacement investment" is made as the resource is depleted. To ensure adequate saving for this "replacement investment," the account can be funded by the value of depletion each year, equal to the minimum amount necessary to keep the aggregate capital stock constant.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699.

91. Israel's Stabilization Program

Nissan Liviatan

A disinflation strategy that involved eliminating the fiscal deficit and changing the rules of the government-labor game reduced inflation in Israel from more than 400 percent a year in 1984 to a low 20 percent a year in the third year of the program.

The stabilization program Israel launched in July 1985 combined orthodox fiscal and monetary policies with a heterodox incomes policy.

The orthodox elements included a sharp reduction in the fiscal-operational deficit — 8 percent of GNP in the first six months — and tight monetary policy.

The heterodox element was to freeze wages and prices and peg the exchange rate to the U.S. dollar. Wage and price controls were relaxed in 1986 and 1987, leaving exchange rate policy (later pegged to the basket of currencies) as the anchor in the new system.

The national coalition government

succeeded in neutralizing pressures for deficit spending. Under government pressure, employers' organizations and organized labor reached a wage agreement in July 1985 that prevented substantial unemployment. This approach — not intended for use in normal times — proved effective in administering shock treatment.

The result? At the end of the program's third year, inflation is running a low 20 percent annually, compared with more than 400 percent in 1984.

Whether stabilization will survive the November 1988 elections remains to be seen.

The stabilization programs in Argentina (in 1985) and Mexico (in 1988) were similar in the initial stages to Israel's.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Nissan Liviatan, room N11-063, extension 37462.

92. A Model of Cocoa Replanting and New Planting in Bahia, Brazil, 1966-85

Pravin K. Trivedi

In Brazil, two decades of high cocoa prices and low interest rates sparked significant growth in new planting of cocoa trees. Higher prices and low interest rates encouraged new planting; but higher prices discouraged replanting in the short term while encouraging it in the long term.

In 1966, 90 percent of the cocoa growing areas in Bahia, Brazil had trees more than 30 years old. By 1985 most of the area had been replanted or supplied with new trees.

Throughout most of this period there were high or rising cocoa prices — and zero or negative interest rates. High prices and low interest rates directly encouraged new planting, but their relationship to replanting is more complex. In the short term, higher prices discourage replanting, which involves uprooting and a temporary loss of revenue. But over the long run, higher prices increase expectations of future profits and encourage replanting.

Lowering the interest rate below its real level provided cocoa growers with a subsidy that encouraged both replanting and new planting.

This paper is a product of the International Commodity Markets Division, International Economics Department. Please contact Dawn Gustafson, room S7-044, extension 33714.

93. The Effects of Education, Health, and Social Security on Fertility in Developing Countries

Susan H. Cochrane

In most countries, spending on family planning programs is more directly effective for reducing fertility than spending on any other individual service. Education, health care, and social security programs may also help to reduce fertility, but their impact differs from country to country, so the spending mix on these programs should be highly country-specific.

Spending on education does not automatically reduce fertility.

Fertility tends to increase, for example, with small amounts of education before falling off at the level of completed primary school. Fertility responds more strongly to female than to male education, and more strongly to education in urban than in rural areas. The specific effect can be measured only by looking at a particular population group.

Health care services that reduce child mortality also reduce fertility when life expectancy reaches a level where couples anticipate the need for fewer children. This differs from society to society and, in general, is a more costly way to reduce fertility than family planning.

The general effect of social security systems on fertility is more difficult to study and to quantify. A preliminary estimate, however, shows it to be the most costly method, compared with education, health care, and family planning.

The cost of averting births, for most countries, appears to be lowest when policy emphasizes family planning. The mix of other programs depends on the country.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091.

94. The World Bank's Population Lending and Sector Review

George Simmons and Rushikesh Maru

The Bank has established a population policy dialogue with governments — and has successfully differentiated its population activities in different areas of the world. But the Bank's efforts to translate population policy goals into effective programs and projects have been far from successful.

The Bank's decision to target its efforts to "key" countries — such as Kenya, India, and Bangladesh — has proven basically correct. In recent years, the Bank has considerably increased its lending, number of projects, and attention to new areas, especially Africa. In many countries, however, fertility remains high.

The Bank has been more successful in developing policy and creating programs than in running effective projects.

Projects have been commonly run through ministries of health with little regional variation or autonomy and minimal roles for nongovernmental organizations (NGOs) and the private sector. Built-in evaluation has not always been present, and postcompletion evaluation has been late. As a result, projects have not been able to recognize and respond to specific and changing needs, and follow-up projects have been unable to take into account findings of project completion evaluation.

The Bank should be able to improve projects by:

- Developing stronger links with a range of government agencies and NGOs.
- Focusing more attention on institutional development and sustainability.
- Emphasizing smaller, less complex projects with more flexible and innovative designs.
- Shortening project cycles so that mistakes can be avoided as new projects are developed.

The Bank should reassess its reliance on supervisory missions for project monitoring and consider greater use of resident specialists for constant guidance. The Bank should also consider developing a systems approach to project evaluation and schedule more regular project reviews. The Bank needs, in addition, to increase its coordination with

other international donor agencies and with private voluntary organizations.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091.

95. International Trade and Imperfect Competition: Theory and Application to the Automobile Trade

Junichi Goto

The real world economy is much less competitive than an economics textbook assumes, especially for automobiles.

This paper develops a formal general equilibrium trade model for imperfect competition, a model easily applied to actual situations. Starting from the Krugman-Dixit-Stiglitz framework, the model incorporates labor market imperfection and variable elasticity of substitution between differentiated products.

The model shows that, in the long run, international trade brings about five gains:

- *Greater variety in consumption.* Consumers can enjoy a wider selection of goods through the introduction of foreign goods.
- *Efficiency in product markets.* Monopolistic power of domestic producers is weakened by foreign competition.
- *Technical efficiency.* The unit cost of production is reduced by foreign competition and by further use of increasing returns to scale technology.
- *Decline in structural unemployment.* Contrary to popular belief, foreign competition reduces unemployment in the long run by rectifying labor market imperfections.
- *Contribution to economic growth.* International division of labor encourages savings in fixed costs, and the saved capital resources can facilitate economic growth.

The model is also applied to the U.S. automobile trade in 1986 to estimate the magnitude of the five effects. The results suggest that the cost of trade restrictions is high because the restrictions further increase the imperfect competition in the American auto industry.

The model is general enough for the analysis of many industries in both developed and developing countries.

This paper is a product of the International Trade Division, International Economics Department. Please contact Jean Epps, room S8-037, extension 33710.

96. The Private Sector and Family Planning in Developing Countries

Maureen Lewis and Genevieve Kenney

In harnessing the private sector to provide more family planning services to both middle and low income people, governments can use incentives to stimulate private sector investment and can ensure quality control through regulation.

The private sector might meet more of the demand for contraception, thereby reducing government's subsidies for contraception.

The private sector is already involved in many facets of family planning — from research and development to production and to distribution and delivery. It is the major source of contraceptive resupply methods (oral contraceptives and condoms) in most countries. And it is an important source of more permanent methods (sterilization and IUDs) in a few countries.

Some public efforts have been exerted to harness and collaborate with the private sector. These include incorporating family planning with employee health benefit packages (the most common experience), social marketing projects (where a subsidized contraceptive is distributed through commercial channels), and stimulants to private sector investment in family planning.

Few of the experiments have been evaluated, but some arrangements appear to be appropriate and effective in raising contraceptive prevalence. Moreover, steps could be taken to improve and expand the methods that donors and national governments adopt to promote greater private sector investment in family planning service delivery.

Clearly needed is an evaluation of existing programs and projects. More needs to be known about what determines consumer reliance on private as opposed to public sector sources of services, the cost and cost-effectiveness of different interventions, and the limits of the private sector in meeting contraceptive demand.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091.

97. Export-Promoting Subsidies and What to Do About Them

Richard H. Snape

Allegedly subsidized exports from developing countries are targets for countervailing import tariffs. But what are export subsidies? Should they be of concern?

Only when the United States started experiencing tough competition in world markets did the questions of fair trade and export subsidies move to center stage in the international trade discussions. But is "fair trade" a will-o'-the-wisp?

The 1970s Tokyo Round of multilateral trade negotiations produced a Subsidies Code. But neither subsidies nor countervailing actions have been constrained to the extent that negotiators of the code hoped. The code has evoked discord, partly because "export-promoting subsidy" is so difficult to define.

The United States has been the chief implementer of countervailing duties (CVDs) — many of them viewed as a form of harassement by foreign exporters, particularly of manufactured products. Few CVDs have been targeted at the United States where — as in Europe — the most subsidized exports are agricultural exports that injure industries not in the importing countries but in other agricultural exporting countries.

Alternative approaches to that of the Subsidies Code are:

- Ignore domestic subsidies in exporting countries and focus only on export subsidies.
- Ignore the distinction between fair and unfair foreign competition and place all industry safeguard actions on one track.
- Attack import barriers, not subsidies, for without barriers to imports the extent of assistance tends to be limited by transparency and by fiscal considera-

tions.

This paper is a product of the office of the Research Administrator. Please contact Jane Sweeney, room S3-026, extension 31021.

98. Diversification in Rural Asia

Agriculture and Rural Development Staff

The challenge to agriculture in East Asia is to sustain rice farming while expanding into a more flexible, diverse agriculture. The task for aid agencies will be to come up with suitable analytical skills and technical knowledge for the switch from commodity-based project lending to broader sectoral support.

As a result of the declining contribution of rice-based farming in East Asia, investment in agriculture must diversify to maintain rural incomes.

In the short term, East Asian countries should (1) diversify toward crops for which there is a promising market (fruits, vegetables, and livestock products rather than sugar, rubber, coconuts, and palm oil) and (2) expand small-scale industry, marketing, and construction in rural areas.

Long-term needs include sustained research on crop and livestock technology with an eye to developing:

- Higher yielding secondary food crops.
- Better integration of livestock and crop production.
- More flexible irrigation and drainage systems (current rice irrigation systems being suited only to rice).
- Improved technology to lower the cost of production.

The policy dialogue should focus on key questions. How do different crops and livestock interact to affect overall output? What are the costs of various combinations? How can the need for farm and regional specialization and cooperation between small farmers be balanced with the broader need for flexibility?

Rather than focus on narrow issues — such as the costs of protecting rice farmers — or take a "pick-the-winner" approach to diversification, the Bank should help:

- Create an overall policy environment that encourages more flexible and broader cropping systems rather than commodity-support programs.
- Design laws and institutions that facilitate efficient marketing by establishing grades and standards for different commodities and developing and distributing farm inputs.
- Stimulate public investment in physical and social infrastructure, communications, and information systems.
- Develop a rural financial system that mobilizes rural savings, makes credit available to traders, and diversifies the rural economy.
- Assess rural training and education systems and their capacity to prepare rural people for nonagricultural jobs.

This paper is a product of the Agriculture Production and Services Division, Agriculture and Rural Development Department. Please contact Shawki Barghouti, room N8-071, extension 30345.

99. Trade Policies and the Debt Crisis

Sam Laird and Julio Nogues

The highly indebted countries have been removing their trade barriers but creditor nations are increasing them. This makes it harder for the indebted countries to export more and to service their debts.

In the early 1980s, faced with a mounting debt crisis, most highly indebted developing countries increased trade barriers to generate more foreign exchange — but in the last three to four years, they have reversed course.

Almost all highly indebted countries have undergone real devaluations and many have undertaken significant liberalizations, so much so that some countries (Bolivia, Jamaica, Uruguay, Mexico, Morocco, Costa Rica) are less protectionist than before the debt crisis.

But industrial countries have imposed new nontariff barriers against imports from highly indebted countries. Canada, Australia, the EEC, and the United States have greatly increased the use of countervailing duties and antidumping actions.

Industrial countries' export subsidies have contributed to lower prices for beef, sugar, and grains — which are important exports for several highly indebted countries. Industrial countries have also recently imposed stricter import quotas and pressured highly indebted countries to accept additional "voluntary" export restraints.

In general, highly indebted countries remain more protectionist than industrial nations. But growing protectionism in the industrial nations makes it more difficult for highly indebted countries to pay off their debts, and ultimately rebounds on creditor governments and banks.

This paper is a product of the International Trade Division, International Economics Department. Please contact Salome Torrijos, room S8-033, extension 33709.

100. Public Infrastructure and Private Sector Profitability and Productivity in Mexico

Anwar Shah

Microeconomic analysis of Mexican industry shows additional investment in public infrastructure produces only a small increase in output. This suggests that the policy emphasis in Mexico should be on the better upkeep of existing infrastructure to ensure the continuity of public services rather than on new capital investment.

This paper specifies a microeconometric model (a restricted equilibrium framework) to estimate the impact of investment in public infrastructure on private industrial profitability. Empirical results based on time series data for 34 industries characterize the Mexican industrial structure as having involuntary unemployment, deficient product demand, declining productivity growth, increasing returns to scale, and short-run excess capital capacity. Aggregate technological change over the period studied has been capital using and labor saving.

Both labor and capital are underused in the short run. This disequilibrium has high efficiency costs that may be undermining Mexico's international competitiveness.

The long-run multiplier effect of public infrastructure on output as measured by the output elasticity of public infrastructure is positive but small. Since public infrastructure is also observed to have a small degree of complementarity with both capital and labor, better upkeep of the existing infrastructure would help improve the functioning of labor and product markets in Mexico.

From the private sector's perspective, however, the long-run productivity of private capital is much higher than the productivity of public capital. Therefore, new capital investment in the public sector is not recommended at this time and should be undertaken only to rectify any identified constraints imposed by the inadequacy of infrastructure in the private employment of private factors.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699.

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101. Measuring the Impact of Minimum Wage Policies on the Economy

Luis A. Riveros and Ricardo Paredes

Traditional statistical techniques probably underestimate the negative effects of protective wage regulations on young and unskilled workers — who should be getting training, not minimum wages.

Our knowledge about the harmful effects of minimum wage regulations has been strongly influenced by statistical evidence from the industrial countries — which is often based on indirect estimates that do not take into account the many "discouraged job seekers" who withdraw from the labor force (and statistical samples) because of minimum wage regulations. Minimum wage regulations are probably more harmful than economists have assumed them to be.

Government regulation of the minimum wage is most likely to limit the job prospects of young and uneducated or unskilled workers.

Proportionately fewer women than men are affected by the minimum wage because women withdraw from the labor force and remain unemployed — or work in the informal sector and productive activities not accounted for in labor statistics.

Minimum wage regulations should probably not apply to young or unskilled workers or apprentices. It is less important to guarantee unskilled workers a minimum wage and more important to provide them with training that will increase their chances of rising above the need for wage protection.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-059, extension 39059.

102. Effects of the Multifibre Arrangement on Developing Countries: A Survey

Junichi Goto

The Multifibre Agreement (MFA), the most important restriction on textile and clothing exports, has damaging effects on many less developed countries, both in the short and long run.

The MFA consists of bilateral quotas against textile and clothing exports from developing countries. It thus derogates two GATT principles: nondiscrimination and the avoidance of quantitative restrictions. Despite this derogation, the MFA is administered under the auspices of GATT.

The primary purpose of the MFA is to restrict LDC shipments of textiles and clothing. Although the MFA quotas cost the consumer in importing countries a great deal, they save (or create) few jobs. The quotas are therefore a poor way to protect workers from foreign competition.

The MFA has a strong impact on LDCs in the short run for the following reasons:

- The forgone export revenue of LDCs, partly offset by the transfer of quota rents, is huge.
- Since individual quotas under the MFA are imposed on selected (often efficient) exporting countries, unrestricted (inefficient) countries may be able to increase their shipments at the expense of restricted countries. The MFA affects the pattern of trade.
- Since the MFA puts a cap on the quantity (not the value) of shipments, it encourages the upgrading of goods.

The MFA also has an impact on the economic development in the long run. On the positive side, attempts to evade MFA quotas stimulate foreign investment from restricted suppliers, like Hong Kong, to nonrestricted countries. Investments to less restricted regions have helped economic development of countries in Asia (and perhaps to less extent in Latin America and the Caribbean).

But the MFA discourages countries from becoming "too successful." For example, when Bangladesh showed success in clothing exports with the help of a Korean company, the developed countries negotiated bilateral restrictions with the poorer country. Thus the MFA tends to maintain the present configuration of textile and clothing trade — and therefore discourages dynamic shifts in trade based on comparative advantage.

This paper is a product of the International Trade Division, International Economics Department. Please contact Jean Epps, room S8-035, extension 33710.

103. Industrial Portfolio Responses to Macroeconomic Shocks: An Econometric Model for Developing Countries

James R. Tybout and Taeho Bark

Rapid changes in the exchange rate significantly affect leverage and liquidity in the corporate sector.

Under what macroeconomic conditions are industrial growth and financial stability — or disaster — most likely in a semi-industrial country?

The question is addressed using an econometric model with the following features. Each firm's net income is a function of macroeconomic variables (such as output demand and interest rates) and firm-specific factors (such as physical asset shocks, currency exposure, and overall indebtedness). Each firm retains some portion of its income — how much depends on dividend policy and past earnings performance. Retained earnings add to net worth and are distributed among specific assets and liabilities according to the same macroeconomic and firm-specific variables. These incremental additions to assets and liabilities set the stage for the next period's adjustment behavior.

Application of this model to Uruguayan raw data yielded these basic findings:

- Corporate income is very sensitive to output demand and the cost of dollar credit.
- Fluctuations in corporate income have a clear, direct effect on the rate at which net worth expands.
- Firms absorb most short-run fluctuations in net worth by adjusting assets, not debts.
- Corporate demand for peso credit is very unresponsive to the real peso interest rate.

The findings imply that rapid changes in the exchange rate or aggregate demand significantly affect leverage and liquidity in the corporate sector.

This paper is a product of the Trade Policy Division, Country Economics Division. Please contact Karla Cabana, room N10-037, extension 37946.

104. Economic Effects of Financial Crises

Manuel Hinds

The financial systems in financially distressed countries should be restructured so that banks can acknowledge and allocate losses rather than protect inefficient companies — thereby throwing good money after bad.

Confronted with a financial crisis, governments in many developing countries protect their banks from bankruptcy by allocating resources to the least efficient debtors — loss-making firms whose bankruptcy would lead to the failure of the banking system. This crowds out efficient activities that could lead to economic recovery.

Such misallocations of resources, and the destabilizing macroeconomic forces they generate, will delay economic recovery until losses are allocated in a way that mimics bankruptcy processes.

The financial system should be restructured to curtail (through writeoffs and recapitalization) the dependence of banks on their bad borrowers. Banks and their depositors (or an important subset of them) should be protected to avoid the monetary effects of a banking panic. But bank shareholders and managers should take their share of the losses — the shareholders by losing their investment (through writeoffs) and the managers by being removed from their positions.

Restructurings of banks should be used to bring about restructuring in the real sector: the failure of unviable firms (by foreclosing on the collateral and selling off assets) or the forced restructuring of troubled but viable firms.

This paper is a product of the Trade and Finance Division, Europe, Middle East, and North Africa Department. Please contact Luz Hovsepian, room H9-065, extension 37297.

105. Securing Access to International Markets

Richard H. Snape

Much of the action in international trade negotiations is bilateral or otherwise discriminatory, including action under GATT auspices. Does this threaten multilateralism and market access for small trading companies?

The unconditional extension of the fruits of trade negotiations under the General Agreement on Tariffs and Trade is giving way to bilateral and other discriminatory trade agreements. Led by the United States, GATT has taken a strong position against discrimination: the benefits of negotiations under GATT generally have been extended to all contracting parties without specific conditions or reservations. This unconditional extension of benefits — the unconditional most-favored-nation principle (MFN) — is now under considerable pressure.

Supporters of conditional MFN point out that it ensures reciprocity and, by discouraging foot-dragging and free-riding, encourages negotiation. On the other hand, advocates of unconditional MFN argue that it ensures that the benefits of negotiations are not wasted, that it simplifies administration of trade barriers, reduces friction between nations, protects the small and weak, and facilitates the development and preservation of a multilateral trading system.

Although the United States has pursued nondiscriminatory trade pacts since 1923, Washington has in a recent turnaround pursued preferential trading arrangements, promoted forms of conditional MFN, and sought discriminatory treatment for some of its exports and imports. No nondiscriminatory leadership has emerged to replace that of the United States.

The threat to multilateralism and small traders will be reduced if:

- New trade-liberalizing "clubs" that are formed in the Uruguay Round, or elsewhere, are open to new members on the same terms that apply to the founders.
- Compliance with the rules of such clubs is determined multilaterally and not unilaterally by any existing members.
- Markets that are levered open are opened in a nondiscriminatory manner.
- Preferential trading arrangements conform to the relevant GATT rule — Article XXIV.
- The main safeguard provision of GATT (Article XIX) remains nondiscriminatory.

This paper is a product of the Research Administrator's Office. Please contact Jane Sweeney, room S3-026, extension 31021.

106. Energy Issues in the Developing World

Edited by Mohan Munasinghe and Robert J. Saunders

Lower oil prices are raising doubts about the underlying assumptions and ambitious energy programs of the last decade. How — and how hard — do countries pursue the goal of energy efficiency in an uncertain energy market.

The developing world still needs large amounts of capital to meet its ever-expanding energy requirements. In most countries, these capital requirements are a big part of the total investment plan. The problems of debt and public revenues make the pursuit of efficiency as important a goal under declining fuel prices as it was under rising fuel prices. Other issues are less clear.

In an era of uncertainty, how do oil-importing countries decide whether to pass savings along to the consumer in lower oil prices or (considering the debt crisis) to treat them as windfall revenue gains? Reducing energy prices is relatively easy, but raising them has historically presented problems. What happens when international prices go up again?

What strategies should such non-OPEC oil-exporting countries as Malaysia, China, and Mexico adopt to offset export losses?

How do developing countries decide whether to invest in further oil and gas exploration or in alternative fuels, and how much should the Bank support them? what should be done with white elephant projects?

How do governments arrive at a productive partnership between the public and private sectors?

What will happen in poorer developing countries that cannot bear the high capital costs of investing in fuel-switching capabilities yet otherwise remain vulnerable to sudden fluctuations in fuel prices?

How do decisionmakers assess the risks of energy investments in an uncertain energy market?

This paper, a product of the Energy Strategy, Management, and Assessment Division, Industry and Energy Department, has also appeared as an Industry and Energy Department Working Paper. Please contact Mary Fernandez, room S2-147, extension 33637.

107. A Review of World Bank Lending for Electric Power

Mohan Munasinghe, Joseph Gilling, and Melody Mason

More people worldwide have access to electric power — but the overall performance of sector utilities is deteriorating. Bank lending should place greater emphasis on improved economic, financial, and managerial efficiency.

A review of about 300 power projects financed by the World Bank and IDA between 1965 and 1983 shows a declining trend in sector performance. More people have access to electric power, and more kilowatt hours are generated per capita, but overall sector performance has declined, while the quality of service is poor and shows no signs of improving.

Therefore in its operations, the Bank should put more emphasis on:

- Making energy production and allocation more efficient (supplying electricity at the lowest cost and basing prices on real marginal costs) rather than using the supply of power to meet other goals such as social equity.
- Increasing incentives to make utilities more efficient and productive.
- Encouraging sector restructuring and institutional reform, including greater private participation, to improve the social compact between government, consumers, and the electric utility.
- Evaluating power projects with better understanding of power, energy, sector, and national economic linkages.
- Striking a better investment balance between power generation and distribution.
- Improving the quality of existing services (and reducing losses) through rehabilitation and maintenance — rather than by simply expanding the system.
- Providing service on a priority basis to the productive sectors, such as industry and (when economically justified) agriculture.
- Using more risk and sensitivity analysis, and more scenario-oriented "what-if" treatment of uncertainty in project preparation work rather than at appraisal.
- Setting more realistic targets for physical and financial performance and clearer identification of constraints on meeting those targets.
- Developing a better institutional memory for project data.

This paper, a product of the Infrastructure and Energy Operations Division, Latin America and the Caribbean Department, has also appeared as a Industry and Energy Department Working Paper. Please contact Mary Fernandez, room S2-147, extension 33637.

108. How to Collect Data on Household Energy Consumption

Josef Leitmann

Energy policy and activities should be based on accurate data about how households acquire and use energy — and such data is best acquired at the household level.

This paper presents guidelines for administering household energy surveys.

Typically, country energy balances, national budget surveys, and microstudies have been the source of information about residential energy consumption. A dedicated nationwide household energy survey will generate more relevant data for planners, policymakers, and evaluators — but may overturn assumptions in the process.

The subsidized promotion of liquefied petroleum gas (LPG) as a charcoal substitute in Senegal, for example, was based on the assumption that subsidies alone would lead to widespread adoption of butane fuel and that as the use of butane increased, the use of charcoal would decline. But a 1987 survey indicated that although 65 percent of the households in Dakar have LPG stoves, only 2 percent use the fuel exclusively. And in the households that use both LPG and charcoal, consumption of charcoal has not changed.

In Niger, wealthy residents, because of their lifestyle and income, were considered the logical market for modern fuels. But a 1986 study indicate that they used alot of wood because they could afford to buy it in bulk (which made it the cheapest fuel) and they suffered none of the health or other disadvantages of wood fires because their servants did all the cooking.

This paper, a product of the Industry and Energy Department, has also appeared as a Industry and Energy Department Working Paper. Please contact Janine Littleford, room S4-038, extension 33627.

109. Improving Power System Efficiency in Developing Countries Through Performance Contracting

Philip Yates

Utilities in developing countries may want to consider a successful new approach to improving performance: engaging a performance contractor to improve their operations — in exchange for a share of the savings. The utility, in turn, fulfills its own performance contract with the government — getting more autonomy in exchange for better performance.

In the United States, some large industrial and commercial energy users have successfully used energy performance contractors to effect energy savings in exchange for a share of the savings.

In some developing countries, governments have considered various forms of government/utility performance contract, whereby the governments give the utilities more flexibility and autonomy in exchange for better performance.

Why not merge the two concepts?

A utility could engage a performance contractor to improve operations in exchange for a share of the savings — thereby allowing the utility to fulfill its performance contract with the government. The government would give the utility more autonomy in exchange for better performance.

This paper, a product of the Industry and Energy Department, has also appeared as an Industry and Energy Department Working Paper. Please contact Mary Fernandez, room S2-147, extension 33637.

110. Impact of Lower Oil Prices on Renewable Energy Technologies

Ernesto Terrado, Matthew Mendis, and Kevin Fitzgerald

Falling oil prices are most likely to affect the economic viability of renewable energy technologies that compete directly in the modern sector as large-scale petroleum substitutes. Projects that involve small-scale and rural applications are less likely to suffer.

The economic sensitivity of renewable energy technologies to changing oil prices is a function of a project's size and loca-

tion. Renewable energy technologies are those that make use of solar, wind, and biomass resources.

Renewable energy technologies that compete directly in the modern sector as large-scale petroleum substitutes suffer the most from falling oil prices. These include "dendothermal" power plants, fuel alcohol projects, bagasse production schemes, biomass gasifiers for process heat, wind farms, and industrial solar water heating systems.

The economic viability of small-scale or remote (rural) applications is less likely to be a problem because:

- They are generally smaller, so fuel costs represent a smaller proportion of total costs in the conventional alternative.
- Petroleum fuels are less available and cost more in rural than in urban areas.
- Biomass fuels (such as wood for gasifiers) cost less in rural areas.

Small-scale and rural applications include biogas, biomass gasifiers for engine use, photovoltaic and wind water pumps, solar crop dryers, and domestic solar water heaters. Some of these technologies, such as wind pumps and domestic solar water heaters, are used extensively in many parts of the world.

This paper, a product of the Energy Strategy, Management, and Assessments Division, Industry and Energy Department, has also appeared as an Industry and Energy Department Working Paper . Please contact Janine Littleford, room S4-038, extension 33627.

111. Recent World Bank Activities in Energy

Industry and Energy Department

About one-fifth of total Bank lending goes to the energy sector — and two-thirds of that supports electric power. Annual Bank energy lending has tripled in the last decade. This paper provides background information on that energy lending

Annual Bank energy lending (including credits from the International Development Association) has tripled, from US$1 billion in fiscal 1977 to about US$3.7 billion in fiscal 1987, but it decreased somewhat in fiscal 1988. Its energy lending over the past 40 years has totalled over US$34 billion.

About one-fifth of total Bank lending is directed to the energy sector. More than two-thirds of the Bank's energy lending is for electric power, which amounts to about US$2.0 billion a year — and over US$19 billion in the past nine years.

In other energy subsectors, the Bank is emphasizing assistance for energy supplies for the domestic market that could not be financed by export earnings and serving as a catalyst for the development of these resources.

This paper presents basic background information on Bank lending in energy, as ready reference for answering queries from companies, governments, and other entities outside the Bank. The paper describes the Bank's role in energy lending — detailing in the annexes, the Bank's lending for gas, oil, electric power projects and its recent energy sector loans. It describes projects by country, giving loan amounts and fiscal years of Board approval.

This paper, a product of the Energy Development Division, Industry and Energy Department, has also appeared as an Industry and Energy Department Working Paper. Please contact Mary Fernandez, room S2-147, extension 33637.

112. A Visual Overview of World Oil Markets

Kay McKeough, Jose Escay, and Sompheap Sem

Oil consumption is expected to increase far more in the developing countries than in the industrial nations by the year 2000 — as the industrial nations shift to a service economy and the developing nations industrialize.

Total world demand for oil is expected to increase about 27 percent in the period 1985-2000, from 57 million barrels a day (mmb/d) to 73 mmb/d.

Demand in the centrally-planned economies (in which industry has been protected from the effects of the oil shocks) should remain about the same.

Oil consumption in the industrial countries is expected to grow only 19 percent in the same period.

But the demand in the developing countries should grow about 50 percent from about 16 mmbd in 1985 to 24 mmbd in the year 2000. No other group of countries will experience so great an increase in demand for oil.

As a result of "industrialization" shifts from the industrial countries to the developing nations, oil consumption in the industrial sectors of less developed countries has remained predominant over their transportation sectors. This has important ramifications for fuel substitution, efficiency improvements, and other policies.

This paper, a product of the Energy Development Division, Industry and Energy Department, has also appeared as an Industry and Energy Department Working Paper. Please contact Mary Fernandez, room S2-147, extension 33637.

113. Public Sector Pay and Employment Reform

Barbara Nunberg

Overstaffed bureaucracies afflicted by eroding salaries, demoralization, corruption, moonlighting, and chronic absenteeism are often unable to carry out the key tasks of economic recovery. What should the Bank do about it?

Four types of problems affect public sector pay and employment:

- Too much spent on wages in the public sector (and too little on supplies and maintenance).
- Overstaffed bureaucracies.
- The erosions of public service salaries — with individual wages too low despite the high overall budget for salaries.
- Too small a gap between high and low wages — which constrains the government's ability to hire and keep qualified personnel at the middle and upper levels.

The Bank has used structural adjustment loans, technical assistance projects, and country economic and sector work to address these problems. In its efforts to support reform of public sector pay and employment, the Bank should:

- Systematically analyze the politics of the reform process, and more fully research key pay and employment issues

(such as nonwage allowance systems and supplementary benefit schemes).

• Allow flexibility (and some country autonomy) in designing reform, so a country will "own" its own reform.

• Look beyond short-term reform to such medium-term issues as redeployment, retraining, and pension and severance obligations.

• Recruit personnel specialized in pay and employment operations or offer specialized training to Bank staff.

This paper is a product of the Public Sector Management and Private Sector Development Division, Country Economics Department. Please contact Jayne Cheeseman, room N9-057, extension 61703.

114. Africa Region Population Projections: 1988-89 Edition

My T. Vu, Eduard Bos, and Rodolfo A. Bulatao

Its population — at the projected fertility and mortality rates — will double in 20 years.

World population grew by around 88 million in 1987. The number added each year will continue to rise for another decade.

Africa now makes up only 9 percent of the world's population, but it will eventually contribute more to world population growth than any other region. Africa's contribution to world population growth is expected to rise from 17 percent today to 30 percent by 2025 and 45 percent around 2050. Africa's population growth rates are very high and, with projected trends, will double the population in 20 years.

Africa includes the three countries with the highest fertility rates in the world — Rwanda, Kenya, and Malawi. It also includes five of the six countries with the lowest life expectancies. Both fertility and mortality are projected to decline in all countries, but will decline more slowly than in other regions.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091.

115. Asia Region Population Projections: 1988-89 Edition

My T. Vu, Eduard Bos, and Rodolfo A. Bulatao

The Asia region now has more than half the world's population and contributes half the world's annual population growth.

World population grew by about 88 million in 1987. Asia contributed half this growth, and by the year 2000 its contribution is projected to be only 4 percentage points smaller.

The contrast between India and China illustrates the variation in the region between high fertility and high mortality countries, especially in South Asia, and low fertility countries in East Asia. Although China has the largest population, India now contributes more to world population growth than any other country. At projected rates, India's population will overtake China's by the end of the next century.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091.

116. Latin America and the Caribbean Region Population Projections: 1988-89 Edition

My T. Vu, Eduard Bos, and Rodolfo A. Bulatao

The Latin America and Caribbean region contributes about 10 percent of the world's growth and is projected to continue to do so into the next century. Its population is expected to double by 2040.

The Latin America and Caribbean region has the lowest mortality rate among the regions and, partly as a result, has a higher population growth rate than Asia.

The LAC region is more demographically homogeneous than the other regions. Life expectancy is higher than elsewhere, and fertility moderate, though there are exceptions. Bolivia and Guatemala have the highest fertility rates in the region, and Bolivia and Haiti have the lowest life expectancy.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091.

117. Europe, Middle East, and North Africa Region Population Projections 1988-89 Edition

My T. Vu, Eduard Bos, and Rodolfo A. Bulatao

The region contributed about 15 percent of the world's population growth last year, and its population is expected to double by 2025.

World population grew by about 88 million in 1987. The Europe, Middle East, and North Africa region contributes about 15 percent of the growth, and this contribution is projected to rise gradually until the end of the next century. The population of the region is expected to double by 2025.

Demographically, the EMN region has two distinct subregions. The European area has fertility and growth rates among the lowest in the world, but crude mortality is slightly higher than in other subregions because of an older age structure. The Afro-Asian area has growth rates closer to those of the Sub-Saharan Africa region. The fast pace of population growth is attributed to relatively high birth and low death rates.

The region includes the country with the world's highest population growth rate, Qatar, and the country with the lowest life expectancy, Afghanistan.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sonia Ainsworth, room S6-065, extension 31091.

118. Contract Plans and Public Enterprise Performance

John Nellis

Contract plans help clarify goals, increase managerial autonomy, and open a dialogue between management and government — but their benefits have been oversold.

Roughly 100 public enterprises in developing countries (50 of them with Bank support) are using contract plans — negotiated performance agreements between the government/owner and the enterprises' managers or directors.

Contract plans have not improved the financial performance of public enterprises dramatically. The process is probably more important than the product.

They do produce clearer goals, open a dialogue between management and the state, and offer such benefits as better accounting, auditing, and management information systems, including physical and financial performance indicators and performance targets.

The problem is, they have been oversold. They are not the mechanism of choice for healing a sick company. They work best with firms that operate commercially and already have decent management and sound financial and reporting procedures.

In supporting contract plans, the Bank should keep ambitions modest and emphasize the clarification of goals, increased managerial autonomy, and open negotiating between management and government. Contract plans should not be a condition of Bank adjustment operations — at least not until the process has been tested and shown positive results in the country.

This paper is a product of the Public Sector Management and Private Sector Development Division, Country Economics Department. Please contact Rose Malcolm, room N9-055, extension 37495.

119. Recent Developments in Commodity Modeling: A World Bank Focus

Walter C. Labys

A review of the state of the art of Bank commodity modeling for forecasting and analysis of supplies, demand, and prices.

The Bank has been on the cutting edge in the development and application of models of primary commodity markets and industries — those involving raw materials, agricultural products, and unprocessed or incompletely processed fuel and nonfuel minerals.

The Bank's International Commodity Markets Division uses these models to forecast commodity supply, demand, and prices for use in project evaluation, market and policy analysis, global economic projections, and assessments of the development prospects in developing countries.

In the 1980s, commodity market modeling became less experimental, more realistic, and more directly oriented to the kinds of commodity price forecasts needed for overall Bank efforts — for example:

- Short-, medium-, and long-term forecasts for market adjustments for cocoa and coffee.
- What-if supply forecasts for coffee under different price scenarios for coffee and fertilizer.
- Analyzing and forecasting long-term changes in multiple-commodity markets (say, for fats and oils and high protein meals or for different forms of minerals).
- Analyzing the effects of changing inventories and oil prices and the availability of synthetics on the supply and price of rubber.
- Analyzing the effect of adjusting capital shocks on perennial tree crops.
- Examining the effect of changes in inventory or inflation on commodity price movements.

Researchers have made the models more realistic by factoring in such considerations as risk (particularly for agricultural supplies); the influence of synthetic substitutes on demand for primary commodities; and the influence of noncompetitive market structures on oil prices and trade patterns.

Price and quantity forecasting has been the major focus of Bank modeling efforts, but the Bank also examines such other issues as investment policies, optimal market stabilization, and pricing strategies.

This paper is a product of the International Commodity Markets Division, International Economics Department. Please contact Aban Daruwala, room S7-040, extension 33716.

120. Public Policy and Private Investment in Turkey

Ajay Chhibber and Sweder van Wijnbergen

Turkey's public policy for expenditure and growth encouraged private investment despite the high real interest rates necessary to induce private domestic savings in a period of declining foreign savings.

Developing countries trying to emerge from recessionary spirals must recognize the importance of public-private interactions in designing growth-oriented adjustment programs. They must appreciate the complex impact of fiscal policy on the economy — the way government credit, investment, and (indirectly) exchange rate policies affect export performance and hence growth and capacity utilization, thus encouraging private investment.

Turkey is an interesting country for studying how public policy can stimulate private investment. The reason is that unlike other high-debt countries, Turkey has managed to increase the rate of investment in recent years despite external constraints and high real interest rates.

Turkey's strategy nevertheless has limits. The surges in public investment in 1986 and 1987 have since hurt macro stability. And private investment has tilted toward such nontradables as housing — partly as a result of special credit schemes directed at mass housing and partly because housing investment is an attractive hedge against inflation. Unless corrected, this shift could hurt future export prospects.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699.

121. Commercial Bank Provisioning Against Claims on Developing Countries

Graham Bird

Commercial banks, through their provisioning, recognize that they expect less than full payment on their developing country debt. Provisioning reduces the willingness of banks to provide new funds, increasing the importance of debt-reduction schemes. Banks would like the multilateral agencies to take the lead. One answer, now or in the future, may be an international bankruptcy court.

With Mexico's announcement in 1982 that it could not meet its debt obligation, the debt crisis — which arose from the

spate of lending that began with the 1973 oil hike — became public. In 1985, Peru limited payment on its debt obligations. The 1985 Baker Plan — designed to lend more to heavily indebted countries in return for structural adjustment within them — had little impact on financial flows. In 1987, Brazil suspended interest rate payments on part of its debt.

Against this background, Citicorp decided in May 1987 to add $3 billion to its loan loss reserves — and many other money center banks, in the United States and abroad, followed suit. Such provisioning — putting aside reserves in low-earning but risk-free assets to cover the possibility of default on loans — reduces both risk exposure and short-term earnings.

No matter what the banks say otherwise, one implication of provisioning is that the banks expect less than full repayment of these debts. Banks with large provisions will lean more toward debt relief than toward the injection of new money to debtor nations. The alternative to debt relief may be general default — given the deteriorating economies in debtor countries, the gloomy global outlook, and the diminished expectation of new monies.

Provisioning may be seen as the commercial banks' first step toward extricating themselves from a certain kind of investment in developing countries. A general feeling in the banking community is that the multilateral agencies must take a stronger role than they have in resolving the debt problem — not that they lend vast sums of money but that they assume stewardship of the debt crisis, adopting a clearly thought out strategy, and making more constructive use of conditionality.

One proposed instrument for this is an international bankruptcy court (the International Debt Restructuring Agency). It would bring together creditors, the debtor country, and the multilateral agencies to work out an appropriate debt relief agreement, conditional on adjustment measures undertaken by the debtor country.

This paper is a product of the Debt and International Finance Division, International Economics Department. Please contact Ida Holloman-Williams, room S7-035, extension 33729.

122. Import Demand in Developing Countries

Riccardo Faini, Lant Pritchett, and Fernando Clavijo

As a less restrictive trade regime is associated with greater responsiveness to economic incentives, econometric evidence that does not allow for the impact of import controls cannot be used reliably to assess the effect of a devaluation on the trade balance.

"Measured income elasticities in developing countries are generally higher than 1 -- and relative prices, although mostly inelastic, significantly affect demand for imports. When a lack of foreign exchange or, more generally, a restrictive trade regime effectively constrains import flows, the measured impact of price and activity variables becomes less pronounced. To recover structural elasticities in such a case, one can develop a direct modeling of quantitative restrictions (which is arduous) or use the experience of a structurally similar country (which is quicker). In general, a less restrictive trade regime is associated with greater responsiveness to economic incentives.

Econometric evidence that does not allow for the impact of import controls cannot be used reliably to assess the effect of a devaluation on the trade balance. Indeed, devaluation combined with trade liberalization (a common feature of many adjustment programs) will have a more pronounced effect on import demand than available evidence would suggest.

The authors compare three approaches to modeling and estimating import demand--which is arduous when trade controls are pervasive:

Option 1: Trade import equations work well when import controls are relatively stable over time, but it is difficult to determine if this is the case. Without *a priori* information, and short of using all misspecification tests, one could perhaps rely on a comparison between estimated elasticity and the "norm" computed in this study. If the difference between the two values is deemed too high, consider:

Option 2: This takes into account the impact of foreign exchange availability. If it seems clear that the country has foreign exchange constraints, the traditional specifications should be bypassed, but incorporating this constraint into the import demand equation is difficult for several reasons. At a minimum, the authors recommend using the broadest possible instrument list, including indicators of world demand, competitors' prices in export markets, exogenous capital flows, and international reserves.

Option 3: The direct incorporation of quantitative restrictions is the main method of recovering structural (notional) demand parameters and assessing, for example, the impact of removing import restrictions. Unfortunately, a good indicator of quantitative restrictions is not usually available and, even if it exists, interpreting its behavior may be difficult.

This paper is a product of the Trade Policy Division, Country Economics Department. Please contact Karla Cabana, room N10-037, extension 37946.

123. Export Supply, Capacity, and Relative Prices

Riccardo Faini

A model applied to data on Turkey and Morocco suggests that prices and capacity have more influence on export supply than domestic demand does. Can a case be made for placing less emphasis on contractionary macroeconomic policies to achieve sustainable external balance?

In the neoclassical approach to specifying an export supply equation, relative prices and capacity are assumed to play a crucial role in domestic firms' decisions to supply exports.

In the Keynesian approach, the willingness of domestic firms to supply foreign markets is considered to be largely a function of domestic demand pressure. Keynesian analyses do not allow for the impact of relative prices.

Faini blends the two approaches in the model he has applied to Turkey and Morocco — countries chosen because of the shifts they have both undergone in their trade incentive structure, and despite the dearth of data on export supply behavior in developing countries.

In Faini's model, a firm is assumed to choose, first, the level of productive capacity and, then, one period later, to determine production and allocation between foreign and domestic markets on the

basis of realized prices, demand conditions, and installed capacity.

Faini's conclusion: Both prices and capacity are significant determinants of export supply. If further studies confirm that relative prices have a significant influence (and domestic demand pressure a weak influence) on export supply — an argument can probably be made for placing less emphasis on contractionary macroeconomic policies as a means of achieving a sustainable external balance. Evidence to support such a conclusion is insufficient, but further research is warranted.

This paper is a product of the Trade Policy Division, Country Economics Department. Please contact Karla Cabana, room N10-037, extension 37946.

124. International Macroeconomic Adjustment, 1987-1992: A World Model Approach

Robert E. King and Helena Tang

Three global econometric models produced the same conclusions: that the global economy is most likely to improve through fiscal expansion in Japan combined with fiscal contraction and monetary easing in the United States. The same models forecast a slowdown in 1988 and low growth in 1989/90 followed by US recovery in 1991-1992.

In forecasting key economic indicators for the major industrial countries, the Bank's Economic Analysis and Prospects Division (IECAP) does not rely on a completely linked global macroeconomic model.

Would IECAP forecasts be consistent with forecasts produced by linked models?

To find out, researchers introduced Bank assumptions about exchange rates and commodity prices into three global models — under the auspices of the OECD, Project Link, and Wharton Econometrics (The WEFA Group).

Differences existed between the IECAP forecasts and the model results — and between the model forecasts (using Bank assumptions).

But given Bank assumptions, the three models agreed on the medium-term forecast: a small slowdown in 1988, low growth in 1989 and/or 1990, and recovery in the United States in 1991 and 1992.

Simulations on all three models also produced the same conclusion about policy: that the global economy is most likely to improve in 1989/90 and stabilize in the 1990s through a combination of fiscal contraction and monetary easing in the United States combined with fiscal expansion in Japan.

This paper is a product of the Economic Analysis and Prospects Division, International Economics Department. Please contact Karen Adams, room S7-216, extension 33738.

125. The Effects of Financial Liberalization in Thailand, Indonesia, and the Philippines: A Quantitative Evaluation

Christophe Chamley and Qaizar Hussain

Removal of financial regulations was successful and had a powerful impact on the level of financial assests in Thailand and Indonesia but failed in the Philippines because taxes imposed on financial institutions interacted with high inflation rates.

In the early 1980s, interest rate ceilings and other regulations affecting financial assets were lifted in Thailand, Indonesia, and the Philippines.

Did financial liberalization work equally well in all three countries? The topic is important because the heavy burden many countries put on financial institutions falls mainly on the holders of financial assets.

The answer is that liberalization of interest rates significantly increased the real return on financial assets in Thailand and Indonesia, because all interest and credit constraints were removed. Similar reform failed in the Philippines, where taxes on the financial sector interacted with high rates of inflation.

As the quantitative evaluation in this paper shows, the efficiency gains in Thailand and Indonesia were small compared with GDP but large compared with the levels of transfers (explicit or implicit) induced by policies of regulation.

The chief lesson to be drawn from these experiences — particularly in the Philippines — is that reallocating resources by manipulating the financial system may be less efficient than other fiscal policies.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699.

126. Educating Managers for Business and Government: A Review of International Experience

Samuel Paul, John C. Ickis, and Jacob Levitsky

What kind of training is most appropriate for corporate executives who must understand world trends and their counterparts in other countries? for owners of small enterprises? for public administrators? And how effective is the training in the United States and elsewhere?

How does the Harvard MBA stack up against executives trained in other ways? How do US business schools compare with training institutions in Japan and India? Which training approaches are most useful for:

Entrepreneurs and owner-managers of small enterprises?

Traditionally, management education has been geared toward training executives for large-scale enterprises. But in the 1980s, small and medium-size enterprises have also become important (for different reasons) in both developed and developing countries. And any new training programs for entrepreneurs and owner-managers of small enterprises have shifted from an emphasis on conventional management skills to one on entrepreneurship and enterprise development.

Corporate managers

In-company programs may meet many management training needs, but managers who must understand world trends and interact with counterparts in other cultures may also need degree programs that build general analytical and communications skills.

Students in both business schools and executive programs need more understanding of the international environment, more knowledge about export marketing, and more ability to analyze and improve operations and productivity, motivate employees, and make practical use of information systems in competition.

Public administrators

The role of public administrators is shifting away from regulation toward

partnership with business and support of a more autonomous private sector. The higher civil servant's role has shifted from caretaker or administrator to policy advisor and decisionmaker.

The new roles of the public administrator are reflected in senior executive programs designed to develop general managers who can move easily from one agency to another. Even university training places less emphasis on law and administration and more on disciplines relevant to policy analysis.

Many problems associated with preentry university degree programs and inservice government training programs are overcome by autonomous management institutes, organized privately or with government sponsorship.

This paper is a product of the Public Sector Management and Private Sector Development Division, Country Economics Department. Please contact Ernestina Madrona, room N9-057, extension 37496.

127. Linking Development, Trade, and Debt Strategies in Highly Indebted Countries

Ishac Diwan

As world interest rates and the level of external debt rise and terms of trade decline, a policy of import substitution begins to make sense for a highly indebted country. At that point, it is in the creditor's interests to grant some debt relief in exchange for a higher export effort.

Despite their productive inefficiencies, export promotion and import substitution policies can improve welfare in a highly indebted country.

After all, the ultimate penalty facing defaulting countries is exclusion from international trade markets. Export promotion can increase available foreign financing, and import substitution can reduce the debt service.

Choosing between export promotion and import substitution is a matter of determining whether it is more profitable to increase the credit ceiling to borrow more — or to reduce the credit ceiling below inherited debt so there is less to repay.

Important determinants in this choice are the stock of inherited foreign debt, the level of world interest rates, the terms of trade, and the availability of profitable investment opportunities.

Generally, a policy of export promotion is best if the level of debt and interest rates are low and the terms of trade are high.

As these variables deteriorate — as a Korea becomes a Peru — the optimal strategy becomes import substitution. In those circumstances, it is in the creditor's interests to grant some debt relief in exchange for a higher export effort.

This paper is a product of the Debt and International Finance Division, International Economics Department. Please contact Ishac Diwan, room S8-027, extension 33910.

128. Public Finance in Adjustment Programs

Ajay Chhibber and Javad Khalilzadeh-Shirazi

Countries undergoing adjustment have increasingly found it difficult to sustain cuts in public sector deficits to match cuts in external financing, thus exacerbating inflation and financial disequilibrium. Moreover, fiscal contraction has often been short-term oriented. Fundamental fiscal reform involving a medium-term perspective has been rare. Given the central importance of fiscal issues in adjustment programs, however, greater focus on them is essential if such programs are to succeed.

This paper, prepared in part as a background study for the Bank's Report on Adjustment Lending, reviews the experience with public finance issues under adjustment programs. This experience shows that fiscal changes are often triggered by budget and balance of payment crises. As a result, short-term considerations have dominated the policy measures introduced. Traditional stabilization policies usually emphasize measures aimed at reducing aggregate demand. On the fiscal side, this has implied cut-backs in public expenditures. There is, however, growing recognition of the need for more growth-oriented adjustment programs, which entail a more comprehensive and durable approach to fiscal reform and therefore require a medium-term perspective.

Countries committed to fundamental reform of fiscal and other key policy areas should be able to avail themselves of external financial support that lasts long enough for them to initiate and sustain the change process. They must strike a balance between stabilization and adjustment. On the expenditure side, this includes a much better understanding of and attention to compositional changes followed by reorientation of e expenditure program. On the revenue side, it entails comprehensive tax reform designed to reduce distortions, to increase buoyancy, and to ensure equity.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699.

129. Women in Development: Defining the Issues

Paul Collier

Changing many apparently gender-neutral public policies will make women a more productive part of the economy — and allow them a more equitable share of its benefits — in some not-so-obvious ways.

Women can be viewed as an underused resource (affecting efficiency) or as a disadvantaged target group (getting an inequitable share of health, education, material advantages, status, and leisure time). Within the household, they are burdened not only with the physical demands associated with reproduction but also with obligations that are not commensurate with their rights. At the societal level, they are discriminated against in their access to public services and jobs, and they lack role models for economic advancement.

Much public policy affects men and women differently, in ways that are not immediately apparent.

A study in rural Tanzania, for example, revealed that job discrimination against women lessened as education increased. A 36-year-old man with secondary education had a three in four chance of nonfarm wage employment; a woman of the same age and education had half the chance. A woman who had completed primary education had only a quarter the chance of a man of the same age and education. With partial primary education or less she had only one-fifth the chance. The policy implication: general expansion of the education system may reduce the aggregate incidence of dis-

crimination if it enables women to continue their schooling.

However, other factors are at work, too. For example, women are less likely to get the many public sector jobs available in rural areas because they are poorly placed to lobby for patronage.

Self-employed women are also at a disadvantage. The credit market is intrinsically male-biased. Lacking the autonomy to build up creditratings, women must rely on savings — and, as managers of the household, they have a greater need than men for liquid assets. Public support of savings institutions to reach small-scale farmers or entrepreneurs tends to improve women's lot.

Some public services tend to be gender-biased. To the extent that certain jobs tend to be done by women, public policy can easily be targeted to benefit women. Rural water, fuel, and health services tend to benefit women more than men. Pricing firewood substitutes, for example, affects women disproportionately because women spend a lot of time gathering firewood. Piped water in effect increases women's time for other productive activities (or even for leisure) because they traditionally spend much time fetching water. Education and extension services (as currently administered) tend to benefit men more than women.

Food subsidies directly benefit net purchasers of food (namely, urban households, for which the population is disproportionately male). Indirectly, some of the subsidy may accrue to sellers, who, at least in Africa, are disproportionately women. Income taxes tend to fall more heavily on males, and expenditure taxes on females. Generalized sales taxes tend to be biased against women but male and female spending patterns are different, so sales taxes can be gender-targeted.

By increasing entry-level wages relative to wages at senior levels, minimum wage laws tend to favor women. To the extent that minimum wages are falling, the wage structure is becoming less favorable to women.

This paper is a product of the Women in Development Division, Population and Human Resources Department. Please contact Johanna Klous, room S9-123, extension 33745

130. Maternal Education and the Vicious Cycle of High Fertility and Malnutrition: An Analytic Survey

Matthew Lockwood and Paul Collier

To break the vicious cycle of poor nutrition and high fertility — reinforced by women's low status — maternal and child health policy, including family planning, should be integrated into public policy and linked to education.

Evidence is increasing that one-dimensional policies, such as family planning and supplemental feeding programs, have little chance on their own of achieving the desired objectives — that what is called for is a maternal and child health policy, including family planning, integrated into public policy and linked to education.

While family planning is probably more cost-effective in reducing fertility than programs for child mortality or increasing education, family planning programs are often more effective when child mortality rates are lower and levels of education are higher. In the long term, the most cost-effective approach to reducing fertility is probably to integrate family planning with efforts to improve maternal-child health and education. On the other hand, if the aim is increasing income per capita, educational policies dominate family planning measures, despite large cost differentials.

Similarly, where the aim of public health provision is to reduce mortality and improve nutrition, there is a strong consensus that integration and coordination of maternal-child health services, especially with educational and literacy policy, is essential and cost-effective. Improving women's ability to work and earn outside the home improves their economic position and power (and probably expenditures on children) — although if their nutritional status is already marginal, working harder to produce more may be a mixed blessing. We must ask: how much extra income do they bring to the household, and to what extent do they maintain control over the income they earn? Also, if mothers and children enjoy more income and autonomy through mothers' employment outside the home, but suffer from the conditions of the work itself, or from lack of adequate childcare alternatives, public policy could alleviate these difficulties — for example, through raising the productivity of women's labor (better access to credit, extension, and markets) and through relaxing the constraints on women's welfare (giving them more schooling, which will give them access to better jobs, more money, and more control over it, as well as enable them to take better care of their children).

This paper is a product of the Women in Development Division, Population and Human Resources Department. Please contact Johanna Klous, room S9-123, extension 33745.

131. Implementing Direct Consumption Taxes in Developing Countries

George R. Zodrow and Charles E. McLure Jr.

This paper argues that replacing an income tax with a direct tax on individual consumption may be a feasible policy option for a developing country. Such a tax should include (1) a flat-rate "consumption-based" business tax that allows immediate expensing of all business-related nonfinancial purchases, and (2) an individual tax with progressive marginal rates on a base of all wages and pension receipts plus gifts and inheritances received. It could be supplemented by an individual wealth tax.

This report examines the possibility of using a direct tax on consumption as a replacement for an existing income tax within the context of a developing country. The structural differences between income and consumption taxes are described, and some simple examples are used to illustrate the basic differences in the taxation of businesses and individuals under the two approaches. A variety of critical structural features of a direct consumption tax are addressed, including (1) the rationale for including a business tax in a consumption-based tax system, (2) the treatment of debt at the business level, (3) the differences between "cash flow" and "tax prepayment" treatment at the individual level, and (4) alternative means of taxing gifts and bequests at the individual level.

The report includes a brief survey of the extensive literature on the choice between income and consumption as the basis for a system of direct taxation. This survey compares the relative merits of the two approaches in terms of the stan-

dard criteria of simplicity, equity, economic neutrality and efficiency, and consistency with economic growth. The discussion focuses on issues that are particularly relevant in a developing country context, and argues (primarily on simplicity grounds) that a consumption tax may well be preferable to an income tax as the form of direct taxation in a developing country.

After a detailed discussion of the choice between cash flow and tax prepayment treatment at the individual level under a direct consumption tax, the analysis concludes that for simplicity reasons the individual tax prepayment approach is the more appropriate one in the developing country context. The report then describes the structure and implementation of such a direct consumption tax. The discussion includes an examination of international and transitional issues, and also comments on the desirability and feasibility of supplementary wealth taxes and taxation on a presumptive basis.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699.

132. Is the Discount on the Secondary Market a Case for LDC Debt Relief?

Daniel Cohen

A discount in the secondary market is a case for debt service relief but not necessarily for a write-off. The author derives a "maximum repayment" rescheduling program, which trades off higher current investment for lower current debt service.

Proposition 1: The "maximum repayment" program the lenders would like to monitor involve a fixed investment rate that is smaller than the socially optimal rate and larger than the post-default rate. It involves a transfer of resources from the debtor that is a fixed fraction of GDP — a fraction that is smaller than the cost of default.

Proposition 2: When the debt-to-GDP ratio is above a floor value (h*), the lenders can capture the "maximum repayment" value (V*) by fictitiously splitting the debt into performing and nonperforming components. Each period, they should ask the borrower to service the performing component of the debt only, and let the performing component grow at a rate equal to the economy's expected growth rate. Meanwhile, the nonperforming asset is automatically capitalized at the riskless rate. When the actual growth rate of the economy is above (below) its expected level, the performing part of the debt is scaled up (down). When this "maximum repayment" rescheduling strategy is undertaken, the equilibrium market value of the debt is equal to V*.

Proposition 3: When the debt-to-GDP ratio is above the threshold h*, the debt can be written down to h* GDP without impairing the lender's return. If the write-off is repeated each time the economy declines, and if the rescheduling is undertaken according to Proposition 2, the lenders capture the "maximum repayment" while the market price of the debt is stabilized at a constant equilibrium price below par.

(*Implication:* Observing a discount on the debt does not automatically warrant a write-off. The discount implies the possibility of default, but lenders should not write the debt off until the possibility materializes. But the *service* of the debt should *always* be scaled down by its market value rather than kept in line with its face value.)

Proposition 4: When the lenders reschedule the debt on a period-by-period basis, they induce the country to follow a growth pattern that exactly mimics the post-default path. The lenders capture each period the penalty they could impose on the defaulting country. As a result, they get more on a period-by-period basis, but less on average than under the "maximum repayment" schedule. Under such a ("time consistent") rescheduling strategy, a write-off and multiyear rescheduling may prove beneficial, but the gains fall short of the strategy defined in Proposition 2.

How relevant is the idea of "debt overhang" (according to which the market value of the debt may depend negatively upon its fact value)? Empirical evidence presented here indicates that, at a 75 percent confidence level, 9 of 33 countries studied may suffer from a debt overhang problem. At a 90 percent confidence level, only 4 of them may be affected by it.

This paper is a product of the Debt and International Finance Division, International Economics Department. Please contact Maggie Luna, room S7-035, extension 33729.

133. Lewis Through a Looking Glass: Public Sector Employment, Rent-Seeking, and Economic Growth

Alan Gelb, John B. Knight, and Richard H. Sabot

What Adam Smith wrote in 1776 is still broadly true: "Great nations are never impoverished by private, though they sometimes are by public, prodigality and misconduct."

Governments in developing countries should and do provide valuable goods and services, but resources are wasted when public revenues support unproductive employees (at the expense of productive workers).

The dynamic cost of such surplus labor in the public sector is potentially much more important than the static social cost normally attributed to urban unemployment. Fiscal resources are needed to support that unproductive "sink," thereby diverting resources from productive investment.

The accumulation, in little more than a decade, of even a small part of the total labor force in an unproductive sink can sap the economy of its dynamism, eliminating improvements in living standards for all but the few who obtain rent-yielding jobs.

Moreover, creating sheltered employment tends to be self-perpetuating. It creates and consolidates vested interests that seek to perpetuate the protected jobs. In the inverse of the Lewis model, the extent of surplus labor increases, rather than diminishes, over time.

This paper is a product of the Financial Policy and Systems Division, Country Economics Department. Please contact Annette Hodges, room N9-021, extension 37672.

134. International Trade in Financial Services

Silvia B. Sagari

Country A is richly endowed with highly trained bankers and managers, Country B with capital, and Country C with arable land. Which country is at a comparative advantage in providing financial services to consumers in other countries?

The issue of trade in services is the subject of increasing interest. Evidence of this is its inclusion in the Uruguay Round of GATT negotiations. As a contribution to the analysis of the issue, in this paper the influence of a country's resource endowments on its net trade in financial services is analyzed.

A modified version of the Heckscher-Ohlin model is developed, which allows for technological differences across countries. This version is then used to explore which productive resources constitute sources of comparative advantage in the provision of financial services. What is the impact of the availability of skilled labor, physical capital, or other productive resources on trade in financial services?

The conclusion? Skilled labor is a source of comparative advantage in financial services. Conversely, relatively larger endowments of arable land and capital would have a negative impact on trade in those services and can therefore be identified as sources of comparative disadvantage. Land resources tend to be diverted to agricultural use; capital tends to be diverted to manufacturing. Evidence on the effects of unskilled labor endowments is inconclusive.

Future research should focus on the implications of restricting trade in financial services. If financial services are considered as "inputs" in the production of goods and services, might barriers to trade in financial services result in inefficient allocation of productive resources, distorted consumption patterns, and significant welfare losses?

This paper is a product of the Financial Policy and Sytems Division, Country Economics Department. Please contact Wilai Pitayatonakarn, room N9-003, extension 37666.

135. PPR Working Papers Catalog of Numbers 1 to 400

136. Pricing Commodity Bonds Using Binomial Option Pricing

Raghuram Rajan

Binomial option pricing offers an easy, flexible, comprehensive method for pricing commodity-linked bonds when there is risk both of default and of changes in commodity prices.

Commodity-linked bonds have received considerable attention recently as a way to tailor a developing country's debt repayments to its ability to pay. A commodity bond makes repayments subject to fluctuations in the price of the underlying commodity.

Previously, formulas for pricing these bonds were based on the standard continuous-time option-pricing method. Solution of the derived differential equation was difficult even when assumptions were simplified.

Binomial option pricing offers a simpler, more intuitive, and more flexible formula for pricing commodity-linked bonds when there is risk both of default and of changes in commodity prices.

Binomial probability distribution trees are used to develop the pricing formula. Extensions to the model — including the pricing of secondary market debt — are easily incorporated. The technique can also be used to derive, among other things, the implied performance risk of secondary market debt.

This paper is a product of the International Commodity Markets Division, International Economics Department. Please contact Julie Raulin, room S7-069, extension 33715.

137. Trends in Nontariff Barriers of Developed Countries: 1966-1986

Sam Laird and Alexander Yeats

The near doubling of nontariff barriers in the developed countries has limited the developing countries' ability to increase exports — particularly in agriculture and such labor-intensive products as textiles, clothing, and footwear — and deal effectively with their debt burdens.

In the major developed countries, 25 percent of imports were affected by nontariff barriers in 1966. Twenty years later that number had nearly doubled, to 48 percent.

Some nontariff barriers affecting fuels were liberalized, but new trade restrictions were introduced on imports of agricultural products, textiles, clothing, ferrous metals, and nonelectric machinery. Nontariff barriers grew faster in the European Community than in the United States or Japan.

Existing GATT arrangements have lowered tariffs but have not stemmed the growth of nontariff protection. Procedures for liberalizing nontariff barriers must be established in multilateral trade negotiations like the Uruguay Round.

These barriers limit the developing countries' ability to expand their export opportunities — particularly in agriculture and such labor-intensive products as textiles, clothing, and footwear. As a result, they are unable to achieve economic growth and deal effectively with their debt burden.

This paper is a product of the International Trade Division, International Economics Department. Please contact Jean Epps, room S8-037, extension 33710.

138. Fiscal Adjustment and Deficit Financing during the Debt Crisis

William R. Easterly

Highly indebted countries are probably better off raising conventional taxes and cutting current spending — rather than raising taxes on financial intermediation and cutting public investment. But shifting policies may require the breathing space only new external financing or debt relief would provide.

To study the adjustment to the debt crisis, the author compared the experience of seven "crisis" debtor countries (Argentina, Brazil, Chile, Mexico, Morocco, Yugoslavia, and the Philippines) with those of five "noncrisis" debtor countries (Colombia, Indonesia, Korea, Turkey, and Thailand).

In response to a sharp reduction in external capital flows, the crisis countries rescheduled their debt during 1982-87. The noncrisis group avoided debt rescheduling during that period and maintained access to external capital.

Most of the noncrisis countries followed an approach of modest domestic financing at market interest rates. This was less costly for private investment because financial savings grew rapidly.

In the crisis countries, public investment was the locus of fiscal adjustment. Most of the crisis countries took the approach of increased domestic financing through taxes on financial intermediation — through reserve requirements, high inflation, and interest rate controls. In the short run, this tax precipitated capital flight and financial disinterme-

diation.

The crisis countries would probably have been better off raising conventional taxes and cutting current spending rather than raising taxes on financial intermediation and cutting public investment.

Small increases in rates or coverage of broad-based taxes (such as income or consumption) are probably less distortionary for the same amount of additional revenue than taxes on financial intermediation. Conventional broad-based taxes penalize mainly consumption. The tax on financial intermediation falls more on investment and may cause more severe damage in the long run.

In a situation that called for quick action, the behavior of the crisis countries was understandable. It takes more time to raise conventional taxes than to tax financial balances, and it takes more time (because it is harder) to cut current spending than to cut public investment.

Shifting to sounder policies in the crisis countries may require the breathing space only new external financing or relief from debt service would provide.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 39059.

139. A Conceptual Framework for Adjustment Policies

Bela Balassa

The principal objective of stabilization policies under the auspices of the International Monetary Fund is to improve the balance of payments. In turn, increasing the rate of growth of output may be considered the principal objective of adjustment policies under World Bank auspices.

The principal objective of stabilization policies under the auspices of the International Monetary Fund is to improve the balance of payments. In turn, increasing the rate of growth of output may be considered the principal objective of adjustment policies under World Bank auspices.

The growth objective may be pursued by improving the efficiency of using existing resources, adding to available resources, and ensuring the efficient use of these additions to resources. In the first case, production incentives need to be reformed; in the second, incentives are provided to savings and investment; in the third, the choice of alternative investments is the relevant consideration. One may, then, classify policy instruments for adjustment into three categories, according to whether they affect resource allocation, savings and investment, and the choice of investment.

Policy instruments that can be employed to improve the use of existing resources include exchange rate and trade policy as well as government regulations and measures relating to state enterprises. In turn, measures that may be taken to increase savings and investment comprise reforming tax regulations, establishing realistic interest rates, increasing public savings, developing financial intermediation, and providing investment incentives. Finally, measures that affect the allocation of investment among particular uses pertain to private investment, public investment, or to particular sectors.

This paper is a product of the Office of the Vice President, Development Economics. Please contact Norma Campbell, room S9-047, extension 33769.

140. Building Educational Evaluation Capacity in Developing Countries

John Middleton, James Terry, and Deborah Bloch

Education monitoring, testing, and evaluation systems are urgently needed in developing countries. Lessons from the American experience suggest that investment plans should tie evaluation standards, requirements, and funding to program support for policy and institutional changes at the national, intermediate and school levels of education systems.

Relatively few developing countries have established a sustainable capacity for educational monitoring and evaluation. As a result, the efforts of governments and assistance agencies to improve education have been hampered by lack of information on outcomes and costs.

World Bank experience with educational evaluation has been disappointing, emphasizing monitoring of project inputs with little attention to outcomes and costs. Efforts to develop a sustained evaluation capacity have largely failed.

In the United States, educational evaluation has become an integral part of education ma- nagement. Large-scale research studies have given way to student achievement testing and localized evaluations that provide decisionmakers with information useful in improving the quality of schools.

These results were achieved through federal policy and funding support for evaluation. Standards, requirements, and financial incentives for evaluation were tied to federal financing for school improvement programs. Institutional capacity was developed at state, district, and school levels.

Similar investment strategies can be used in developing countries. However, the strategies should be incremental, first putting systems in place at relatively low levels of technical sophistication, then raising the technical level as institutional capacity is developed. Staff training and development, including the social science and education faculties of universities, is essential to developing sustainable capacity.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

141. Payroll Taxes for Financing Training in Developing Countries

John Whalley and Adrian Ziderman

Whether a developing country finances training through payroll taxes may depend on the country's stage of development.

In most developing countries, the major programs of vocational training and skill development are financed from general government revenues. Increasingly, however, earmarked payroll taxes have been introduced to finance training.

The authors summarize international experience with payroll taxes, the two major types of which reflect different objectives. Under the traditional, so-called Latin American model, revenues are earmarked to finance training provided by the state or a national training authority. Under the levy-grant (or rebate) scheme, payroll tax rebates are offered to enterprises to set up or broaden

in-service training programs

Whether payroll taxes are a more desirable source of financing than other alternatives probably depends upon the stage of a country's development.

Few lower-income countries finance training through payroll levies. They may have only limited access to such broadly-based taxes as value-added taxes and tend to rely instead on trade taxes and specific excises (say, on drink, tobacco, and gasoline). In countries where the government's financing options are limited, payroll taxes may be attractive but administratively infeasible.

Most countries using the payroll tax approach are situated in the lower-middle income range. In this range, value-added taxes may be equally justifiable economically but two things make the payroll tax approach more attractive: the ability to target payroll taxes using differential tax rates by sector, and the rationale of the reverse social security scheme (that is, with workers receiving benefits when they are young and essentially paying taxes later to cover the training costs of workers who follow them.)

As a country develops, other financing alternatives should become realistic — for instance, government guarantees for worker loans, or tuition-paid programs (with partial recovery of costs through user fees and a student loan program).

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

142. Vocational Secondary Schooling in Israel: A Study of Labor Market Outcomes

Adrian Ziderman

Most economists consider vocational education to be socially inefficient. Israel may prove them wrong — particularly for students whose occupations are related to their course of study.

Israel is a fitting place to compare the outcomes of academic and vocational schooling. More than half the Israeli secondary school pupils attend vocational schools or vocational streams in comprehensive schools.

A study based on 1983 Israeli census data shows vocational schooling to be more cost-effective than general academic education. In particular, vocational school completers who work in occupations related to their course of study earn about 10 percent more a year than their counterparts who either attended secondary schools or who attended vocational schools but were employed in occupations unrelated to their course of study.

Studies that show vocational schooling to be cost-ineffective compared with academic schools tend to concentrate on earnings, without taking into account such variables as the relevance of the type of occupation to the vocational studies pursued. Future evaluation studies should pay more attention not only to that variable but to issues of curriculum (including the type and scope of vocational studies).

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

143. Decentralization in Education: An Economic Perspective

Donald R. Winkler

Some decisionmaking (about educational finance and teacher recruitment) should be handled at the local level and some (about school organization and curriculum) at the regional level. Problems of equity can be addressed through a system of central government grants.

Evaluating decentralization in terms of three economic criteria — social efficiency, technical efficiency, and equity — the author argues that some decisionmaking (about finance and teacher recruitment) should be provided for at the local level, and some (about school organization and curriculum) at the regional level.

A system of central government grants should be used to correct problems of equity and inefficiency inherent in a decentralized system.

Little is known about the economic and educational consequences of decentralization, despite a wide variety of country experiences. The effects of decentralization are difficult to isolate, so scholars have focused instead on issues of implementation.

Decentralization policies are most successfully implemented if:

- There is a tradition of self-reliance in local communities.
- Local governments or communities have their own sources of tax revenues and voluntary contributions.
- The pressure for decentralization originates in the community rather than with ministry planners.
- All important affected political groups, especially teachers, are involved in and informed about the development of decentralization plans.
- Administrative capacity at the local level either exists or is provided through training.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

144. Product Differentiation and Foreign Trade in CGE Models of Small Economies

Jaime de Melo and Sherman Robinson

In a simple, one-sector analytical model, the authors show that applying the same assumption about product differentiation to imports as to exports gives rise to a well-behaved, price-taking economy and normally shaped offer curves.

In recent years, two classes of computable general equilibrium (CGE) trade models have been used to investigate external sector policies: single-country and multicountry trade models.

The single-country models have been used to analyze such external sector issues as the impact of restrictions on foreign trade or the impact of changes in net foreign transfers or world prices on the equilibrium of the real exchange rate. The multicountry models are typically concerned with resource allocation and the welfare implications of tariff reductions.

The authors examine the treatment of exports and imports — and different assumptions about export demand and import supply behavior — in recent single-country CGE models of small economies. They present a simple, one-sector analytical model that captures the major features of the multisector counterpart used in applied models.

They show that applying the same assumption about product differentiation to imports as to exports gives rise to a well-behaved, price-taking economy and normally shaped offer curves.

They illustrate the one-sector model with a numerical example which shows — using different trade substitution elasticities — the implications of the choice of weights used as a proxy for the domestic price index in computations of real exchange rate indices.

The model also shows the role of foreign trade elasticities in the popular Australian model — with traded and nontraded goods. Trade substitution elasticities on the import side play a crucial role in determining the direction of change in the real exchange rate during terms-of-trade perturbations.

This paper, forthcoming in the *Journal of International Economics*, is a product of the Trade Policy Division, Country Economics Department. Please contact Karla Cabana, room N10-037, extension 37946.

145. Revenue-Raising Taxes: General Equilibrium Evaluation of Alternative Taxation in U.S. Petroleum Industries

Jaime de Melo, Julie Stanton, and David Tarr

Should the United States increase energy tariffs and taxes to help reduce the federal deficit? And if so, what combination of tariffs and taxes makes the most sense?

Should the United States increase taxes and tariffs in the energy sector to reduce its federal deficit?

The authors used a twelve-sector general equilibrium model to estimate the fiscal effects, and the effects on welfare and employment, of

- A 25 percent import tax on imported crude oil.
- A 15 percent excise tax on petroleum products.
- A combination of the two.

The excise tax would be the most efficient instrument for raising revenues.

The 25 percent import tariff would raise $7.3 billion in government revenues, while the 15 percent excise tax on petroleum products would raise $35 billion in government revenues.

Moreover, each dollar raised through a tariff on imports would come at a loss of 25 cents in welfare. Each dollar raised through the excise tax on petroleum products would come at a loss of only one cent in welfare

Not only would an import tariff on crude oil cause much dislocation (an estimated 153,000 workers would have to relocate), but it would pose trade policy problems.

A combination of excise taxes, subsidies, and import tariffs would be the least costly way (in terms of welfare) to raise $20 billion in government revenues. Taxing both sectors minimizes distortion-induced resource movements. The welfare cost of raising $20 billion is least when domestic petroleum production is subsidized by the combination of an import tariff and a small subsidy to counteract the distortion resulting from the tax on oil and gas, an input of the petroleum sector.

The optimal tax structure would involve a tariff and a small subsidy on petroleum products to counteract the distortion induced by a tax on oil — the most important input for petroleum products.

This paper is a product of the Trade Policy Division, Country Economics Department. Please contact Karla Cabana, room N10-037, extension 37946.

146. Exchange Rate-Based Disinflation, Wage Rigidity, and Capital Inflows: Tradeoffs for Chile,1977-81

Timothy Condon, Vittorio Corbo, and Jaime de Melo

Chile's exchange rate-based stabilization program might have produced better results if capital inflows had been kept lower and if wage indexing had been more flexible.

Real exchange rate appreciation usually accompanies stabilization programs based on the exchange rate. One thing that causes the real exchange rate to appreciate is the capital inflows that follow liberalization of the capital account and the financial market.

Capital inflows cause the exchange rate to appreciate in part because of the resulting increase in expenditures. This appreciation is exacerbated if there is some price rigidity — as, for instance, when wages are indexed — and if control of the money supply is only partial. All these conditions existed during Chile's experiment with exchange rate-based disinflation between 1978 and 1981.

Simulating what might have been (using an econometric model), the authors study how exchange rate-based disinflation affects expenditure switching and reduction when wages are partially indexed in some segments of the labor market.

An alternative policy restricting capital inflows to a lower level would have led to a proportionately larger decline in absorption than in income — and the decline in absorption would have fallen disproportionately more on consumption than on investment.

The authors also show the extent to which a more flexible rule on wage indexing would have offset the adverse impact of lower capital flows on protected sector employment.

This paper, forthcoming in the *Journal of Development Economics*, is a product of the Trade Policy Division, Country Economics Department. Please contact Karla Cabana, room N10-037, extension 37946.

147. The Private Sector's Response to Financial Liberalization in Turkey: 1980-82

Izak Atiyas

The private sector's response to the short-lived episode of liberalization in Turkey in 1980-82 did not live up to expectations.

Financial liberalization was carried out in a period when the nonfinancial corporate sector was in financial distress due to reduced profitability. The consequent emergence of substantial nonperforming loans in the banking sector, especially among smaller banks, created fierce competition for financial resources. The result was a rapid expansion of deposits and high real interest rates. Instead of forcing insolvent borrowers into bankruptcy, banks refinanced nonperforming loans as a way to prolong their own survival, and real credit to the private sector increased dramatically. Furthermore, the market mechanism turned out to be ill-equipped to induce the exit of insolvent banks and thereby increase the efficiency of allocating loanable funds.

An analysis of firm-level data reveals

that nonfinancial corporations were subject to both an earnings shock (increases in costs relative to sales income) and an interest rate shock. Although the debt-to-asset ratios of profitable firms did not change, those of firms under distress actually increased, despite higher costs of borrowing.

The Turkish experience suggests that financial liberalization may not produce desired results when it occurs in a period of major macroeconomic realignments that adversely affect the profitability of the corporate sector, especially when it is implemented without an adequate regulatory framework.

This paper is a product of the Financial Policy and Systems Division, Country Economics Department. Please contact Wilai Pitayatonakarn, room N9-003, extension 37666.

148. Impact of the International Coffee Agreement's Export Quota System on the World's Coffee Market

Takamasa Akiyama and
Panayotis N. Varangis

The new global coffee model shows which producing countries have gained and which have lost from the operation of the International Coffee Agreement — and what would happen if the Agreement were discontinued.

Ex-post simulations of the global coffee model over the recent period of operation of the International Coffee Agreement's export quota system, 1981-86, show the following. The quota system had a stabilizing effect on world coffee prices in the 1981-85 period. In 1986, when coffee prices increased sharply due to the drought in Brazil and the export quotas were suspended, prices would have been 24 percent higher in the absence of the quotas over the 1981-85 period. But the quotas have reduced export revenues (in real terms), except for such large producers as Brazil and Columbia. These countries gained from the scheme because they face very small or even zero marginal export revenues from increased exports, due to their large market shares.

In projections of the coffee market, with and without the export quota system, prices would be substantially lower during the first half of the 1990s if the quota system were suspended in 1990. But prices would recover in the second half of the decade as production and exports declined in lagged response to the very low prices of the first half.

For 1990-2000 most producing countries would be better off in total real export revenues with the export quota system. But the extent of the benefits vary considerably from one country to another. Low-cost countries — such as Costa Rica, Indonesia, the Philippines, and Papua New Guinea — could more than compensate for the lower world prices under the without-quota situation by large increases in exports. High-cost countries — such as Côte d'Ivoire, El Salvador, Ethiopia, and India — would suffer both from the lower prices and lower export quantities without the export quota scheme. The two largest producers — Brazil and Columbia — would also benefit from the extension of the quota scheme.

This paper is a product of the International Commodity Markets Division, Inter-national Economics Department. Please contact Dawn Gustafson, room S7-044, extension 33714.

149. Reflections on Perestroyka and the Foreign Economic Ties of the USSR

Bela Balassa

The exploitation of the Soviet Union's foreign trade potential would necessitate adopting a realistic exchange rate and increasing the foreign exchange retention quotas for direct and indirect exporters. It would also require reforms of domestic policies.

The first prerequisite is the establishment of rational prices. This objective may be pursued by adopting world market prices for raw materials and fuels, having the exporters of manufactured goods receive the prices they obtain abroad, setting domestic prices of imports at world market prices plus the tariff, and establishing market clearing prices for manufactured goods that are produced and sold domestically.

Eventually, world market prices would be brought to bear on domestic prices in conjunction with the liberalization of imports, but this will be a long process since the pent-up demand for imports cannot be satisfied from available foreign exchange. At the same time, given the limitations of raising fuel and raw material exports, which presently dominate Soviet foreign trade, it would be necessary to increase the exports of manufactured goods, where quality provides a constraint. To upgrade quality, there is need for foreign machinery, the purchase of which would require external borrowing and joint ventures. It would further be necessary to decentralize decisionmaking on foreign trade in enlarging the scope of firms that can directly trade abroad.

The decentralization of decisionmaking in foreign trade should be accompanied by decentralization in the domestic economy, to be complemented by the introduction of the profit motive and competition. In fact, rational prices, decentralization, profit maximization, incentives to managers, and competition are interdependent, and they will have to be pursued simultaneously for efficient resource allocation.

This paper is a product of the Office of the Vice President, Development Economics. Please contact Norma Campbell, room S9-047, extension 33769.

150. Improving the Currency Composition of External Debt: Applications in Indonesia and Turkey

Ken Kroner and Stijn Claessens

The debt service ratio of many developing countries shot up when the dollar fell. The paper shows how developing countries can alter the currency composition of their external debt to minimize their vulnerability to fluctuations in international exchange rates.

Changes in exchange rates affect both the structure and level of a country's external debt. Much of Indonesia's debt was denominated in yen, for example, so the depreciation of the dollar since 1985 has increased the level of Indonesia's debt and reduced the dollar-denominated portion of that debt.

Indonesia's debt service increased from 10 percent in 1980 to 37 percent in 1986, largely because of the depreciation of the U.S. dollar and the fall in oil prices. Other countries had similar experiences.

Developed countries can hedge

against exchange rate and commodity price changes by purchasing currency futures or other hedging instruments, but most developing countries do not have access to futures markets. They can, however, reduce their exposure by matching the currency composition of their external debt with the currency composition of the cash flows with which they service their debt.

Using advanced econometric techniques, the authors analyze what the currency exposures might have been in Indonesia and Turkey — and suggest borrowing portfolios that might be effective in hedging these countries' terms of trade against exchange rate fluctuations.

The results are promising for Indonesia, where the optimal currency portfolios might have resulted in a significant reduction in risk. The results are less satisfying for Turkey — although they do indicate possible research directions.

This paper is a product of the Debt and International Finance Division, International Economics Department. Please contact Leah Chavarria, room S7-033, extension 33730.

151. U.S. Trade Policy Towards Developing Countries

Bela Balassa

The U.S. market has generally been more hospitable to imports from developing countries than have the markets of other industrial countries.

The United States has often been criticized for protectionist measures taken against developing country products. Yet, average agricultural protection has remained practically nil in the United States over time while rising in the European Common Market and, even more, Japan. It further appears that manufactured imports from developing countries have increased much more rapidly, and reached higher levels, in the United States than in the European Common Market and, in particular, Japan.

The U.S.-Japan comparisons for manufactured goods do not conform to the data on the extent of nontariff barriers, as measured by the share of imports from the developing countries which are subject to such barriers. The solution to the puzzle lies in part in the inadequacies of data on the share of imports subject to nontariff measures for gauging the protective effects of such measures and in part in the reliance on formal measures of protection in the United States as against the use of informal measures in Japan.

More generally, one may explain the results obtained by reference to the openness of the U.S. market that has generally been more hospitable to imports from developing countries than have the markets of other industrial countries, particularly Japan. This has been the case even for clothing and textiles, where developing countries have in large part gotten around the restrictions by introducing new fibers and upgrading products.

This paper is a product of the Office of the Vice President, Development Economics. Please contact Norma Campbell, room S9-047, extension 33769.

152. Subsidies and Countervailing Measures: Economic Considerations

Bela Balassa

The present rules on export subsidies and domestic subsidies should be revised to conform better to economic principles and to limit distortions in international trade.

To begin with, the illustrative list of export subsidies should be made definitive, with appropriate revisions. These revisions would eliminate the dual pricing of inputs and remove requirements of the physical incorporation of inputs for the exemption and remission of indirect taxes and import charges. Also, the exception made for primary products in regard to the prohibition of export subsidies should be eliminated.

Only measures which are specific to an enterprise or industry should be considered domestic subsidies. At the same time, it would be desirable to strengthen existing rules on domestic subsidies. This could be accomplished by prohibiting domestic subsidies that exceed a certain percentage of output value as well as domestic subsidies provided in cases where exports account for a large proportion of output.

Developing countries receive preferential treatment in the application of GATT rules on export subsidies. They are exhorted, however, to reduce or eliminate export subsidies which are inconsistent with their competitive or development needs. It is suggested that procedures be established to phase out export subsidies in the case of advanced developing countries as well as in cases when an industry of a developing country is internationally competitive.

This paper is a product of the Office of the Vice President, Development Economics. Please contact Norma Campbell, room S9-047, extension 33769.

153. An Analysis of Debt — Reduction Schemes Initiated by Debtor Countries

Ishac Diwan and Stijn Claessens

Don't evaluate a debt-reduction scheme using present-value calculations alone. Look also for efficiency gains that allow both debtor and creditor to gain.

In evaluating the benefits of a voluntary debt-reduction scheme, look for efficiency gains that allow both debtor and creditor to gain. In particular, certain debt reduction operations can:

- Increase the incentives for growth in highly indebted countries.
- Allocate risk more efficiently between debtor and creditors.
- Signal the credibility of a country's willingness to "adjust" its economy to regain creditworthiness.
- Strengthen the creditors' coalition.

Market-based debt conversion is more likely to improve the debtor nation's welfare when:

- The opportunity cost of foreign exchange is low relative to world interest rates.
- There is a great probability of default (rescheduling) with a deadweight loss to the creditor — and when the cost and uncertainties of reschedulings are high and borne largely by the debtor.
- Private rather than public debt is swapped for equity investments.
- The country has no other way of signaling its commitment and willingness to adjust
- The country has an extreme case of debt overhang.

This paper is a product of the Debt and International Finance Division, International Economics Department. Please contact Leah Chavarria, room S7-033, extension 33730.

154. Forecasting, Uncertainty, and Public Project Appraisal

Jock R. Anderson

A measure of the probability of commodity price forecasts is not necessary for most project analysis, but it does give users a realistic view of the forecast's precision — and imposes a useful discipline on the forecaster.

Concerned about the most appropriate form of commodity price forecast to give project analysts, the author reviewed the literature on decisionmaking under conditions of uncertainty.

He concluded (in a 1983 report, published here in revised form) that the expected mean forecast is usually the relevant price parameter to use in analyzing public projects under conditions of uncertainty.

He further concluded that:

- Public project decisions should not be influenced by the expected variance around the expected mean price.
- Ideally, commodity price forecasts should be conditional forecasts — that is, conditional on forecasts of other variables, such as income and inflation. This requires forecasters of these variables to be explicit about the precision of their forecasts.

The author describes a general procedure for determining approximate magnitudes of risk adjustment expressed as a proportion of expected project return. The factors used in this approximation are (a) relative risk aversion, (b) relative size of project, (c) relative project risk, (d) the correlation of project return with national income, and (e) relative risk of national income.

Since this report's publication in 1983, the International Commodity Markets Division has regularly published simple probability distributions for its minerals, metals, and coal price forecasts. It also provides probabilities for its other price forecasts on request.

This paper is a product of the International Commodity Markets Division, International Economics Department. Please contact Audrey Kitson-Walters, room S7-053, extension 33712.

155. Measuring Adult Mortality in Developing Countries: A Review and Assessment of Methods

Ian Timaeus and Wendy Graham

In countries where full death registration is a distant goal, the best way to collect data on adult mortality is probably to combine sample community-based health reporting systems and single-round surveys in which respondents are asked about the survival of various relatives — including parents, first spouses, and siblings.

Reliable information about adult mortality — ideally, by age and cause for population subgroups — is important for population and health care planning and as an indicator of changes in human welfare. In most developing countries, data collection methods in the civil registration system and health services are woefully inadquate and methods for adjusting them apply only at the national level.

In the many developing countries where deaths are not fully registered, the best way to collect data on adult mortality is probably to combine sample community-based health reporting systems and single-round surveys in which respondents are asked about the survival of various relatives, including parents, first spouses, and siblings.

The authors argue that a few reliable indicators that cover the whole population are not only more affordable but more useful for health planning than a mass of information of doubtful accuracy and completeness.

One should not make inferences about adult mortality by extrapolating from information on child deaths. Only genuine measures of adult mortality are useful for planning. Several approaches — active sample registration systems, multi-round demographic surveys, sentinel site reporting, and demographic surveillance systems — have been fairly successful but expensive. Questions put to household heads about recent deaths in the household seldom yield useful data and should not be used in their present form.

Demographic research shows that age patterns of mortality are similar in all populations, so it is possible to estimate mortality rates with reasonable reliability from simple data on the proportions of surviving relatives reported by survey respondents. More research is needed to determine whether indices of mortality by cause can be similarly inferred from general proportionate measures of death from particular causes. Single-round surveys asking about family survivors have not always worked well, but they often yield good estimates of adult mortality at relatively low cost, are efficient in sample size, and based on straightforward questions about the respondents' lifetime experience.

The method's main limitation is that it provides rather broad, nonspecific measures of mortality — but these are adequate for allocation of resources, which is likely to be affected only by large differences. (Methods to elicit more specific information are still in the experimental stage.)

Certain questions need further investigation:

- Can additional information important for health planning be gathered in the context of surveys designed to measure levels, trends, and differentials in adult mortality?
- Can the indirect questions used in single-round surveys be used to investigate causes of death, on the one hand, and some of the social and economic consequences of adult deaths on the other?
- Can the measurement of adult mortality be integrated with efforts to improve our understanding of ill health in the surviving adult population?

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sonia Ainsworth, room S6-065, extension 31091 (58 pages with figures).

156. Credit Cooperatives in Israeli Agriculture

Yoav Kislev, Zvi Lerman, and Pinhas Zusman

Many businesses suffered with the introduction of anti-inflationary policies in 1985. Only in agriculture did a whole

sector — cooperatives — collapse financially. The reasons for this failure lie in the character and operating mode of Israeli cooperative credit.

In the last two to three decades, moshavim and kibbutzim developed intensively, adopted new technologies, reacted quickly to changes in market conditions, and established a network of farm services owned and operated by farmers and their representatives.

Financial cooperation helped make this intensive development possible and was effective when appropriate conditions prevailed. But in its strength lay dangers.

Cooperation in credit — together with a government policy of easy money and broad public support — also caused overexpansion and overinvestment. Warnings from within the government about overcapacity were overruled by political decisionmakers eager to show progress, however shortsighted. Debt grew to crisis proportions.

When macroeconomic conditions changed and the expansion of credit slowed down, the sector found itself trapped in financial impossibilities. Now cooperation ties farmers and organizations together and intensifies the dimensions of the crisis.

The authors recommend:

- Minimizing the extension of agricultural credit under preferential terms — and reducing subsidies.
- Continued (but limited) government commitment to aid farmers in financial distress caused by environmental fluctuations or temporarily depressed markets but not by other factors.
- Government participation in the creation of institutional structures (e.g., the revival of concentrated credit) to control overborrowing by farmers and farmer associations.
- Changes in cooperative laws and regulations that improve control over the cooperatives' financial integrity and strengthen the credit cooperatives' governance structure.

This paper is a product of the Agricultural Policies Division, Agriculture and Rural Development Department. Please contact Cicely Spooner, room N8-039, extension 30464.

157. A Policy Model for Tunisia with Real and Financial Flows

Martha de Melo, Marc Leduc, and Setareh Razmara

Country economists and developing country decisionmakers can use this model to analyze fiscal, debt, and incomes policies — and to derive implications for the exchange rate and for the availability of credit to the private sector. The extended model generates a complete flow of funds for each time period, along with projections of national accounts in current and constant prices. Elements of the extended model can be suppressed, changed, or further extended, making it a flexible tool for country economic analysis.

This model was developed to provide a macroeconomic framework for Tunisia's structural adjustment program and a flexible tool for further country economic analysis. As currently specified, it is designed to analyze fiscal, debt, and incomes policies, while deriving implications for the exchange rate and for the availability of credit to the private sector. Several policy experiments are carried out to illustrate this focus, and suggestions are offered for variations in model closure and detail.

The core model is a one-sector computable general equilibrium model that assumes imperfect substitution in production for export and domestic use — and imperfect substitution in expenditure on imports and domestically produced goods. It is based on a social accounting matrix and distinguishes government budgetary receipts and expenditures from such flows in the rest of the economy. A link with the Bank's country debt model is provided by assuming a fixed dollar resource gap for the projected years.

The extended model generates — for each time period — a complete flow of funds, along with projections of national accounts in current and constant prices. It distinguishes seignorage, or the growth in real money demand, from the inflation tax and can be used to define the growth in base money consistent with a target price level or, alternatively, an endogenous price level consistent with growth in base money.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699.

158. Labor Redundancy in the Transport Sector

Alice Galenson

Efforts to make the transport sector more efficient and financially viable almost always have serious implications for labor. What issues are involved and how should the Bank address them?

The issue of what to do with excess labor is critical to the success of any endeavor to improve the transport sector — whether that be improving railway financial indicators, upgrading port technology, rationalizing urban bus operations, or privatizing road maintenance.

Failure to reduce overstaffing leads to excessive wage bills. This exacerbates budget deficits and the losses of parastatal enterprises, which leads to cuts in investment or in the purchase of materials designed to reduce costs — further limiting labor productivity.

Moreover, because transport employs so many people, labor redundancy in the sector affects not only the agencies or enterprises concerned but the public sector as a whole.

This paper offers no blueprint for action, but categorizes the principal causes of redundancy, reviews the measures used to reduce overstaffing, and discusses the issues that have to be addressed. The report is organized around the following important questions, discussion of which highlights the need for research and for a method of evaluating the success of redundancy schemes.

- Is technical redundancy at the enterprise level equivalent to redundancy in a broader economic sense?
- Is a direct, but perhaps costly, solution — such as layoffs or forced retirement — preferable to attrition as a means of reducing the labor force?
- Is the solution chosen responsive to the causes of the problem?
- Once the immediate problem is re-

solved, are additional steps needed to prevent a recurrence?

• When falling demand for labor is inevitable, what changes are necessary to facilitate management response?

• If a short- or medium-term solution is not possible, what are the implications for choice of technology and organization of the labor force?

This paper is a product of the Transport Division, Infrastructure and Urban Development Department. Please contact Wendy Wright, room S10-051, extension 33744.

159. Current International Gas Trades and Prices

Kay McKeough

Unlike oil, natural gas is not widely marketed internationally, so uniform international gas prices do not exist, and news in the trade press is sporadic. This survey of prices and trades should prove useful to developing countries in understanding the price competition for natural gas and the trends in international agreements.

Certain trends stand out in this survey of Western European and North American gas markets and Japanese-Asian, Middle Eastern-African, and Latin American gas trades.

Prices for natural gas are usually locally based — depending on the costs of exploration, development, and transmission, and prevailing prices locally. The price in most international contracts is changed periodically, however, based on an escalator or price adjustment clause linked to prices for crude oil or oil products in the consumer country. So gas prices worldwide tend to fall within a prescribed range — $2.00 to $3.75 per million BTUs.

International gas prices fell less than expected in the 1985-86 oil crash — especially in Japan — because contract prices were linked to artificially high official prices of crude oil rather than to spot oil prices, which better reflect the market. In the future, LNG and pipeline gas export prices are more likely to be linked to actual or spot prices than to official oil prices.

The price of LNG imports has dropped in Japan. Japan now pays an average CIF price of $3.60 per million BTUs. In Europe the trend has been to negotiate gas import prices downward to about $2.25 per million BTUs to make gas competitive. (For comparison, the price of Canadian gas at the U.S. border is about $2.00 per million BTUs.

As for global trends in gas trades, new pricing terms (such as flexible take-or-pay arrangements) and contractual arrangements (such as open access, or common carrier, transportation systems) that emerge in one country may soon be copied in others. With a take-or-pay provision, a purchaser must pay for a contracted volume (or fraction) of gas even if it cannot take the gas. Under a common carrier agreement, a pipeline company provides transportation only, without buying and reselling the gas in its own name or discriminating among buyers and sellers. The common carrier concept has already taken hold in the United States. It is now becoming an issue in Europe, where the gas monopolies have always rebuffed it.

This paper, a product of the Energy Development Division, Industry and Energy Department, has also appeared as an Industry and Energy Department Working Paper. Please contact Mary Fernandez, room S2-147, extension 33637.

160. Evaluating the Performance of Public Enterprises in Pakistan

Mary M. Shirley

Even managers critical of Pakistan's new performance evalua-tion system consider its targeting and bonus system a powerful incentive to improve efficiency.

In 1983 Pakistan initiated a performance evaluation, or "signaling," system for industrial public enterprises (IPEs). The system, which has been applied to most of Pakistan's IPEs and is administered by a special unit outside the civil service, involves:

• Selecting performance evaluation criteria.

• Assigning criterion values.

• Negotiating achievement targets for the enterprise.

• Evaluating results.

• Providing bonuses based on the evaluation (up to three months salary for A grade).

The focus is on operating efficiency, not financial returns, and on motivating management by excluding factors beyond the control of managers.

Even managers critical of the system (including some who did not receive bonuses) cite the targeting and bonus system as a powerful incentive to improve efficiency.

To strengthen the system, the author suggests:

• Adjusting standard profits to exclude items that distort results (such as nonoperating income and depreciation) and that take administered prices into account.

• Rewarding managers who reduce losses as well as those who increase profits.

• Allocating bonuses more selectively — on the basis of individual performance. This requires developing adequate personnel evalua-tion systems.

• Increasing competition and managerial autonomy (particularly decisions on personnel and credit) to cut costs and increase efficiency.

• Studying the impact of policy and regulatory decisions on IPEs — for example, the costs of social objectives, price controls, and delays caused by central decisionmaking.

The paper concludes with suggestions of ways to simplify and adapt the system for use in other countries.

This paper is a product of the Public Sector Management and Private Sector Development Division, Country Economics Department. Please contact Rose Malcolm, room N9-055, extension 37495.

161. Commodity-Indexed Debt in International Lending

Timothy Besley and Andrew Powell

Initially commodity-contingent debt contracts appear to work best when a group of creditors have control over the total amount lent, rather than when a single lender acts in isolation. Should a multinational institution take the lead in developing a market for them?

Superficially, commodity-indexed bonds resemble a combination of a debt and a contract in futures. They are particularly useful in a country dependent on a single commodity for which prices are volatile.

These financial instruments — which explicitly introduce risk management considerations into the credit market — involve a tradeoff between gains in risk-sharing and a deterioration in incentives (or an increased likelihood of default).

The precise costs and benefits of commodity-contingent contracts in international lending depend on the model employed. Commodity indexing seems to work best when:

- The borrower is heavily concentrated in a commodity or set of commodities for which prices are so volatile that income fluctuates greatly.
- A small, well-informed, coordinated set of creditors have control over the total amount lent (a good argument for a public body taking the lead in developing a market for this type of contract).
- Information is fully available about how borrowed funds are used and thus whether conditionality is meaningful.
- The borrower has no control of the index used in the contingent contract.
- There is a low "beta" between returns on the commodity and returns from the rest of the lender's portfolio.

Many of the arguments made for a commodity-dependent borrower may also be made for countries subject to other risks — for example, a country that has borrowed largely in dollars and is thereby exposed to high currency risks.

This paper is a product of the International Commodity Markets Division, International Economics Department. Please contact Julie Raulin, room S7-069, extension 33715

162. Inflation in Argentina: Stop and Go Since the Austral Plan

Miguel A. Kiguel

Why did the Austral plan fail to curb inflation on a sustained basis? Sophistication in the design of a stabilization program is no substitute for addressing fundamental imbalances, contends the author — and price controls, improperly used, can make the problem worse.

The Austral plan, launched in 1985, was Argentina's most recent stabilization strategy for reducing high inflation. A heterodox program, it combined orthodox components — tight fiscal policy and monetary restraint — with less conventional wage and price controls.

The Austral plan failed to bring inflation down on a sustained basis, but it provided useful lessons about the design of heterodox stabilization programs, the difficulties of sustaining this type of effort, and the consequences of failure.

Lesson 1, contends the author:

Sophistication is no substitute for addressing fundamental imbalances. Sustained curbing of inflation requires a long-term effort. Income policies can help bring inflation down quickly, but must be accompanied by sustained monetary and fiscal efforts. Tight money cannot be sustained in the presence of a large fiscal imbalance.

Fiscal reform and a restructuring of public sector enterprises were imperative, but were not undertaken.

Lesson 2:

To be effective, price controls must be used cautiously and only temporarily. They should gradually be removed when authorities see that the underlying inertial forces have been subdued.

The authorities did not think through how to liberalize prices — when, how, and under what condition to remove price controls — without bringing back inflation.

The chief advantage of controls is also their chief drawback. They can quickly reduce inflation, leading authorities to underestimate serious underlying imbalances. The repeated use of controls works against stabilization: anticipating freezes, firms set high prices. Anticipating re-imposition of controls, firms accelerate price increases. Controls should be removed gradually, when supplies generally are in excess, and tight fiscal and monetary policies should remain in place during "flexibilization." This was not done in Argentina.

In the Austral plan, the removal of controls coincided with a flexibilization in the management of the main anchors of the system. Gradual decontrol of private prices followed by a sequenced adjustment in wages, public sector prices, and the exchange rate would have had a better chance of success, the author argues.

The removal of controls left the economy with no nominal anchors — no nominal variable to anchor the rate of inflation. Given necessary adjustments in prices and the exchange rate, money should have played a more active role and the authorities should have pursued a policy of untying devaluations from past inflation.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-059, extension 39059.

163. How Infrastructure and Financial Institutions Affect Agricultural Output and Investment in India

Hans P. Binswanger, Shahidur R. Khandker, and Mark R. Rosenzweig

Prices matter — but so do banks, markets, and infrastructure.

How do the decisions of farmers, financial institutions, and government agencies interact and affect agricultural investment and output in a region — and to what extent are these "actors" influenced by a region's location and agroclimatic endowments (for example, rainfall or the soil's moisture-holding capacity).

This paper is an attempt to quantify the relationships of key factors, using district-level time-series data from India.

Agricultural opportunities in a district are seen as the joint outcome of the agroclimatic endowments of the district and new technology that becomes available to it. Better agroclimatic opportunities improve output (relation 1), but also increase the economic return for a private farm investment — say, in a tractor (relation 2). Greater private profit in a well-endowed region induces farmers to press for more investment in infrastructure (relation 3). Financial institutions find it more profitable to locate where there is more demand for capital and more repayment capacity (relation 4) and where good infrastructure reduces their costs (relation 5). Private agricultural investment and use of input is more profitable the better the agricultural opportunities (relation 2), the better the infrastructure (relation 6), the cheaper the cost of financial services (relation 7), and the more favorable government's price and interest policies (relation 8). Exactly the same factors affect the output supply (relations 9, 10, 11). Traditional approaches to production function estimate the direct im-

pact of capital stocks (investment) and input use on output (relation 12), ignoring many of the factors discussed here.

After comparing data on these factors, the authors conclude that:

• Agroclimatic factors continue to govern the rate at which districts can take advantage of new agricultural opportunities, and govern public, bank, and private investment decisions.

• The availability of banks (credit) is more important than the real interest rate as a factor in aggregate crop output and farmers' demand for fertilizer. Rapid bank expansion in an area increased fertilizer demand by about 23 percent, rates of investment in pumps 41 percent, in milk animals 46 percent, and in draft animals about 38 percent. Despite their impact on investment and fertilizer use, the impact of banks on output appears to be fairly small (nearly 3 percent).

• Unsurprisingly, commercial banks prefer to locate in well-watered areas where the risk of drought or flood is relatively low. Bank expansion is facilitated by government investments in roads and regulated markets, which improve farmers' liquidity and reduce banks' and farmers' transaction costs.

• In the 1970s, expansion of regulated markets contributed 4 percent to growth of agricultural output and 17 percent to demand for fertilizers. Expansion of electrification increased output 2 percent in a decade by increasing investment levels for pumps and fertilizer. A primary education added a large 8 percent to crop output over the decade, primarily by increasing fertilizer demand nearly 30 percent.

This paper is a product of the Agriculture Operations Division, Latin America and Caribbean Country Department II. Please contact Josefina Arevalo, room I7-100, extension 30745

164. Intersectoral Financial Flows in Developing Countries

Patrick Honohan and Izak Atiyas

The business sector in developing countries relies on external funding for about half of its investment. If the availability of investable funds is to be freed from its dependence on the vagaries of the international capital markets, developing country financial systems will have to attract more household savings with new types of instruments and adequate returns.

A review of flow of funds data for 17 developing countries reveals that most years in most countries:

• The household sector is a net lender, lending on average 7 percent of GNP — and more in countries that are more open and have higher income. The household sector typically saves more than twice what it needs to finance its accumulation of real assets, lending the rest to other sectors.

• The business sector is a net borrower, borrowing on average 7 percent of GNP. About half of real capital formation by business is externally financed.

• The government sector is sometimes a net lender but more often a net borrower.

Intersectoral flows in developing countries are achieved mostly through the banking system. The rest of the financial system is typically relatively underdeveloped. Thus savings are channeled from the household to the business sector much more by means of bank deposits and loans than through issue of equities.

The foreign sector cannot be relied upon as a passive or residual provider of funds to the domestic economy. A shortfall in foreign financing or an increase in government borrowing typically force the business sector to reduce its investment. Households and the government typically do little to absorb foreign financing shocks by adjusting their net lending.

The vulnerability of the business sector to the availability of foreign funds points up the need for the financial sector in developing countries to find more ways to attract domestic savings to finance worthwhile investment projects. This will require that savers are ensured a fair share of the returns on investment projects — which means realistic interest rates for savers and the development of financial instruments that allow savers to share in high-risk high-yield projects.

This paper, a background paper for the 1989 World Development Report, is a product of the Financial Policy and Systems Division, Country Economics Department. Please contact Wilai Pitayatonakarn, room N9-003, extension 37666.

165. Shifting Patterns of Comparative Advantage: Manufactured Exports of Developing Countries

Alexander J. Yeats

Labor-intensive goods are the developing countries' strongest export items -- and the United States is the chief import market for these goods. What's more, the industrial countries can expect increasing competition in the 1990s in clothing, footwear, leather products, wood manufactures, and some primary metal manufactures.

Labor-intensive goods are the strongest export items for developing countries — and the United States is the developing countries' biggest export market.

In 1965 the National Bureau of Economic Research predicted that developing countries would specialize in the manufacture and export of labor-intensive goods — and prepared a list of those goods.

A study of actual exports for 1965-1986 revealed that with few exceptions, export performance of those labor-intensive goods was superior in developing countries — which increased their market shares for those items despite generally declining shares of world trade.

The United States absorbed nearly 55 percent of labor-intensive products in 1986 ($70.2 billion, compared with only $34.4 billion in the EC). And more than 40 percent of total U.S. imports of labor-intensive goods came from developing countries (compared with only 12 percent in the EC).

Many of the products the National Bureau identified as labor-intensive remain so, and therefore remain suitable for production and export by developing countries.

Clothing, footwear, leather products, wood manufactures, and some primary metal manufactures became relatively more labor-intensive — so producers in industrial countries can expect increased competition from the developing countries in these products in the 1990s.

This paper is a product of the International Trade Division, International Economics Department. Please contact Jean Epps, room S8-035, extension 33710.

166. Achieving and Sustaining Universal Primary Education: International Experience Relevant to India

Nat J. Colletta and Margaret Sutton

Funding, local accountability, good teacher training, and upgrading poorer schools are all important. But promoting female enrollment may also require more organized day care — to free young girls from child care duties.

To achieve its goal of full enrollment of children aged 6 to 11 by 1990, and children aged 6 to 14 by 1995, India must increase its enrollment from less than 80 percent to more than 100 percent in 10 years. Sustaining universal primary education also means reducing the high dropout rate (over 50 percent by grade 5) to near zero for eight grades.

To reach its targets, India must:

- Back up policy with funding — in particular directing central government funds to areas and states with insufficient resources to improve facilities, quality of instruction, and local language resources.
- Encourage local accountability of teachers and administrators to communities. Encouraging good local school management (coordinated with state and central management) as well as community participation promises the best administrative oversight of schools.
- Improve quality in the poorer schools and states to increase participation and retention rates in the primary schools. This requires well-trained teachers — motivated both by better pay and in-service training (which the introduction of educational technology will facilitate).
- Make curricula and exams relevant to local students (emphasizing basic knowledge and reasoning skills over academic knowledge).
- Make a special effort to provide organized day care to release young girls from their child-care responsibilities.

This paper is a product of the Population, Human Resources, Urban and Water Operations Division, Asia Country Department IV. Please contact Mary Philiph, room D1-015, extension 75366.

167. Do Price Increases for Staple Foods Help or Hurt the Rural Poor?

Martin Ravallion

In the short run the rural rich in Bangladesh are likely to gain, and the rural poor to lose, from an increase in the relative price of food staples in a food producing economy. But in the long run the welfare of a typical poor household will be neutral to such price increases (after allowing for wage adjustments), and the poorest households will benefit somewhat.

The effect on the poor of changes in the price of staple foods is a central issue in debates on development policy.

One argument is that while low food prices clearly benefit urban groups, the rural population that depends primarily on food agriculture is likely to be worse off. High food prices may benefit the rural poor by raising rural wages, even when the poor are net demanders of food.

The counterargument is that the rural poor are net demanders of food. In rural South Asia, for example, they do not produce enough food for their own consumption, typically supplementing their own farm incomes with earnings from agricultural labor. Under conditions of partial equilibrium, they cannot benefit from high prices.

There is little agreement about how responsive agricultural wages are to food prices, so the author has examined the effects of changes in food prices under induced wage responses for rural Bangladesh based on an econometric model of agricultural wage determination.

The results:

Partial equilibrium analysis suggests that the rural rich are likely to gain, and the rural poor to lose, from an increase in the relative price of food staples.

Steady-state equilibrium analysis suggests a different result: that the rural rich will probably gain from such a price increase, but in the long run the welfare of a typical poor household is more likely to be neutral to changes in the price of rice.

The long-term effect on welfare will vary among the poor, however. In the long run, welfare in the poorest households would seem to improve more from such a price increase than would welfare in households that are less poor.

Typically, three or four years must pass before a price increase for rice stops having a negative effect on the welfare of the poor.

This paper is a product of the Agricultural Policies Division, Agriculture and Rural Development Department. Please contact Maggie Zee-Wu, room J2-084, extension 37589.

168. Technological Change from Inside: A review of *Breakthroughs!*

Ashoka Mody

The reviewer gives high marks to Breakthroughs!, *a book describing the way individuals conceived and developed new products and services, and then set about bringing them to market.*

Remember life before Post-its? You probably used scotch tape (made by 3M) to paste your note where you wanted it. What about putting the paste on the paper? If you were working at 3M, say, would it occur to you?

In *Breakthroughs!*, the authors detail the development of Post-it Note Pads and other products and services that have come to be regarded as indispensable (how did we ever do without them?) These products now seem ordinary. In many cases the technology was readily available. But what counts, the book says, is the concept, and even then, the route to commercial success requires considerable ingenuity and corporate support. Who were these innovators and what problems did they have to tackle before the market applauded their breakthrough?

The book presents case studies of 12 products and services; five consumer durables (cars, VCRs, Walkmans, microwave ovens, and Nike athletic shoes); three services (Federal Express, Chem Lawn, and Nautilus); two health care items (Cat Scans and Tagamet); an intermediate product (polyethylene); and the Post-it Note Pads.

While the authors applaud the tenacity and vision of the individual, they give some of the credit to the firms' marketing and manufacturing expertise. Ironically, the reviewer says, there isn't much concern for economic principles. Amana officials priced the microwave oven at $499

because they concluded that "It's about the same size as an air conditioner. It weighs about the same. It should sell for the same."

This paper is a product of the Industry Development Division, Industry and Energy Department. Please contact Wendy Young, room S4-101, extension 33618.

169. Financial Sector Reforms in Adjustment Programs

Alan Gelb and Patrick Honohan

Reform programs call for more prudential supervision of financial institutions but fewer restrictions on interest rates, the direction of credit, and financial innovation generally. The planning of financial reform must be predicated on an appropriate macroeconomic framework, without which reform efforts can result in costly failure.

The recent upsurge of concern with financial sector policy issues in developing countries arises primarily from three characteristics of their financial systems:

- Many of the financial institutions in developing countries are extremely unsound.
- There is often excessive control over interest rates and the direction of credit, amounting to repression of the financial systems.
- The domination by banks of the financial system in many countries has led to a need for institution-building to enrich the range of services that the financial sector can provide.

The typical financial sector reform package involves policy changes to increase the power of centralized decision-making in some areas and to reduce it in others.

For prudential regulation and supervision, reforms seek strengthened information systems, stronger and more detailed regulations, and closer credit supervision. At the level of the intermediaries, reforms seek improved procedures, some of which (credit policies, loan review, and management information systems) are natural complements to improvements at the central level.

But insofar as the relative cost and availability of credit are concerned, the typical reform program calls for a reduction in government control, and tries to broaden the range of options for finance. Called for are increases in, and ultimately liberalization of, interest rates, as is a reduction in the scope and severity of restrictions on bank lending and financial innovation generally. A reduced burden of taxation, implicit and explicit, of the financial system is often required.

Many needed financial sector reforms are of an institutional nature requiring the acquisition of scarce skills. For instance, development finance institutions may need to reconsider their fundamental objectives and their entire method of operating. These changes take time to become effective, and it is not clear that the typical quick-disbursing policy-based operation is the ideal medium for effecting them.

Experience has shown the importance of the links between financial sector policies and performance and the macroeconomic situation. Without an adequate degree of macroeconomic stability, financial sector reforms can fail, with serious consequences. Therefore the planning of a financial sector reform must be predicated on an appropriate macro-policy framework.

This paper is a product of the Financial Policy and Systems Division, Country Economics Department. Please contact Maria Raggambi, room N9-031, extension 37657.

170. General Training Under Asymmetric Information

Eliakim Katz and Adrian Ziderman

Firms are unlikely to provide their employees with general training that makes them more desirable to competing firms. They are more likely to provide such training if it is difficult for other firms to measure the value of the training.

One widely accepted conclusion in the human capital literature on training is that firms will finance only firm-specific training because it is non-transferable to other firms. Firms will not be willing to finance training in general (transferable) skills.

In this paper it is argued that a recruiting firm will possess only limited knowledge of the training level in general skills acquired by workers in other firms. Hence a worker with transferable skills who changes employer can expect to suffer a cut in wages for a transition period while his level of productivity is being evaluated and recognized. Such a worker has no incentive to move as long as the present value of the loss in earnings during the probationary period is greater than the present value of the loss incurred in remaining with the training firm at a wage below the market-level for his skill. In such cases this constraint on worker mobility will make it feasible for firms to assume a share in investment in the general-skills training of their workers — a result that qualifies the traditional theory of on-the-job training as developed by Becker.

This result may have some important implications for policy in countering the deleterious effects of such market imperfections as minimum wage legislation and a restricted capital market, on the supply of trained labor with general skills. It also suggests that training certification, in facilitating interfirm mobility, discourages on-the-job training by firms.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

171. The Cost-Effectiveness of National Training Systems in Developing Countries

Christopher Dougherty

Schools should be responsible for teaching basic skills and the theoretical aspects of vocational training, and employers should be responsible for the practical end — with on-the-job training supplemented in some cases by training at training centers. Institutionalized pre-employment training for entry-level jobs is less cost-effective — despite wishful thinking that it provides an easy solution to the problem of mass youth unemployment.

Which is better: school-based training (vocation education), center-based training, or on-the-job training (such as apprenticeship schemes)? Controversy about choice of training mode has been aggravated by three factors:

- Failure to recognize that voca-

tional-technical training covers a broad spectrum, from ap-plied science education to job-readiness training. Advocates and critics of a particular training mode who find themselves arguing at cross purposes often have different points of this spectrum in mind.

• Insufficient appreciation of the training that is, or could be, provided — for example, by the private sector in the form of in-service training (apprenticed or otherwise) and training provided by proprietary schools, suppliers of equipment, and other sources.

• A tendency by planners to overestimate greatly the need for extended pre-employment training for entry-level jobs. This bias is reinforced by wishful thinking that training can provide an easy solution to the problem of mass youth unemployment.

Drawing on a comprehensive survey of international experiences and issues, the author concludes that:

• Under favorable conditions (including adequate financing), any training system can be effective. Considering the time and money it takes to execute radical change, it makes more sense to improve the performance of existing training systems than to try replacing them. The design of a training system is not so important as its ability to evolve in light of experience.

• Planners should consider dividing responsibility between schools, employers, and training centers. Schools should be responsible for basic skills and the theoretical end of the vocational training spectrum, and employers should be responsible for the practical end — after the individual has entered the labor force.

• Ideally, for some occupations, employer-trained trainees should attend training centers (which may or may not be schools) part-time to add to their theoretical knowledge — both during initial on-the-job training and later in their working life, as the need arises.

• Full-time institutionalized training aimed at bringing the trainee to job readiness is likely to be less cost-effective for a number of reasons — and in many countries would place an intolerable burden on public funds.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

172. The Effects of Peru's Push to Improve Education

Elizabeth M. King and Rosemary T. Bellew

Peru's effort to expand public education from the mid-1950s to the 1960s has narrowed the educational gap between rural and urban residents, males and females — but male urban students are still likely to advance furthest in school. At the primary level, student achievement is greatly improved by such material inputs as desks and textbooks.

From the mid-1950s to the 1960s, the government of Peru undertook a major expansion of public education, increasing the number of schools, requiring primary schools that offered an incomplete cycle to add grades, and increasing school inputs (principally teachers and textbooks).

The authors examine the effects of Peru's educational policies, and the effects of family background and community characteristics on the schooling levels of a sample of adults. Data on males and females were analyzed separately by birth cohort, using a sample of 5,644 females and 5,241 males aged 20 to 59.

The authors found that:

• The government's policy to expand the schools played a major role in raising education levels and narrowing the gap between rural and urban residents, and males and females.

• The impact of parents' years of schooling and occupations on the educational levels of their children lessened over time as the supply of schools expanded throughout the country — an indicator that the link between socioeconomic background and access to schools had weakened.

• The relative effect of parents' education differed for sons' and daughters' schooling. Fathers' education had twice as great an effect on sons' schooling as mothers' education; for daughters, both parents' education had equivalent, strong positive effects.

• Primary schools expanded rapidly even in rural areas, so rural residence did not adversely affect the primary schooling of males. Urban or rural residence did matter greatly for females, however, suggesting less desire by rural parents to invest in the schooling of their daughters.

• Urban residence at the age of 13 remained an important determinant of educational attainment because of the great disparity between urban and rural areas in availability of secondary schools.

• The availability of material school inputs, such as textbooks and desks at the primary level, had a large positive effect on final school levels.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

173. Hospital Management Staffing and Training Issues

Julio Frenk, Enrique Ruelas, and Avedis Donabedian

Hospitals dominate health care, so making hospitals more efficient is crucial to better health care delivery. The authors suggest an agenda for research.

Hospitals dominate health care in most parts of the world and for a variety of reasons are likely to continue being a key factor in the overall performance of the health care system. Any efforts to improve this performance must therefore give greater hospital efficiency the highest priority.

After discussing key issues of managerial, clinical, and production efficiency, Frenk, Ruelas, and Donabedian suggest an agenda for research, which would include two types of research:

• Observational studies that document levels of hospital performance and correlate them with organizational design and environmental variables. It is especially important to devise and test sensitive, specific indicators of managerial, clinical, and service production efficiency.

• Comparative intervention studies that would introduce planned change in hospitals and assess the consequences — using control groups as well as cost-benefit and cost-effectiveness analyses.

The mostly highly recommended subjects for research, in order of priority, are:

• Good descriptive studies of the hospital system and the main aspects of organization design — to chart, for example, the formal and informal relations among managers and clinicians, the frequency of different arrangements for

internal communication, types of departmentalization, and management systems.

• The systematic design, testing, and study of explicit quality monitoring and assurance systems. Such studies should include the analysis of interactions between managers and clinicians, especially as they constrain clinical autonomy and decision making.

• Studies to determine which social, personal, organizational, and educational factors account for managerial skill and success in managing a hospital — to get the information needed for the recruitment and training of successful hospital managers.

• Studies of the structure and dynamics of medical labor markets, to improve understanding of why there is an oversupply of doctors in so many different countries.

This paper is a product of the Health and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091 (37 pages with charts).

174. Trade Restrictions with Imported Intermediate Inputs: When Does the Trade Balance Improve?

Ramón López and Dani Rodrik

When imports are predominantly intermediate inputs — as they are in most developing countries — import restrictions act as a supply shock to the economy and therefore cannot always be relied on to improve the trade balance.

The author's model demonstrates that when imports are predominantly intermediate inputs — as they are in most developing countries — import restrictions cannot always be relied upon to improve the trade balance. Such restrictions act as a supply shock to the economy.

Unless nontraded goods are intensive users of imported intermediates, the general-equilibrium consequence of import restrictions is a large enough reduction in export supplies to swamp the direct effect of the restrictions. The result is a deterioration in the trade balance.

One can check the robustness of the author's model results with extensions that may capture more realistic features.

One extension is to consider real wage rigidity and unemployment. If capital in the short run is sector-specific, the net effect of a small tariff remains ambiguous — because an increase in the domestic price of imported inputs will cause a fall in employment and thus a decrease in real income.

Another extension is to consider domestic production of the imported intermediate goods. Such production is likely to be an important factor in medium- and high-income countries, but much less so in very poor countries. The income effect of the tariff will still be negative, though less so.

This paper is a product of the Trade Policy Division, Country Economics Department. Please contact Maria Ameal, room N10-035, extension 37947 (15 pages with tables).

175. An Integrated Model of Perennial and Annual Crop Production for Sub-Saharan Countries

Robert D. Weaver

This microeconomic model of household choice reflects the fact that crop production in Sub-Saharan Africa is dominated by smallholders who allocate household labor across annual and perennial crops and, in some cases, to wage labor markets.

Crop production in Sub-Saharan Africa is dominated by smallholders who allocate household labor across annual and perennial crops and, in some cases, to wage labor markets.

Weaver has developed a microeconomic model of household choice which is consistent with observed characteristics of Sub-Saharan agricultural systems in terms of:

• Integrated production of annual and perennial crops (since households often produce both annuals and perennials). This interaction has been ignored in past models.

• Price uncertainty in markets that may be affected by government intervention.

• The potential for off-farm employment.

• Household consumption of crops produced on the farm (on-farm inventories are usually nonexistent).

• Household consumption of nonfood goods, school fees, and so on.

Weaver considers variations is the model to establish their implications. These variations include differential buying and selling prices, fixed subsistence consumption constraints, participation in wage market labor, smuggling in response to goverment price control, and parallel markets with penalties for smuggling.

This paper is a product of the International Commodity Markets Division, International Economics Department. Please contact Aban Daruwala, room S7-040, extension 33716.

176. Credit Rationing, Tenancy, Productivity, and the Dynamics of Inequality

Avishay Braverman and Joseph E. Stiglitz

When credit to farmers is rationed, changes in technology may lead to a long-term increase in sharecropping and then to reduced productivity. The development of effective *rural financial institutions would reduce the likelihood of these negative effects.*

Why, when given the same resources, might productivity be lower on farms operated through sharecropping than on owner-run farms, even though sharecropping is an efficient institution in economies in which land is unequally distributed? The reason is that sharecropping, much less wage contracts, cannot overcome the divergence of interests between those who till the land and those who own it. Only land redistribution can do that.

Braverman and Stiglitz present notes toward a general equilibrium theory of land tenancy that suggests how changes in technology and in publicly provided infrastructure can affect the equilibrium distribution of land in countries where credit to farmers is rationed.

They argue that the prevalence of share tenancy is directly related to inequality in the distribution of wealth — and of landholding in particular. But inequality should be viewed as an endogenous variable, affected by decisions of both large landholders and peasants about (1) techniques and (2) forms in which to hold their wealth. These decisions and their consequences are affected

in turn by changes in technology and in the rural infrastructure.

When credit to farmers is rationed, changes in technology can increase the inequality in landholdings — with a long-term increase in share tenancy. This in turn might reduce productivity, at least partially offsetting the initial improvements.

Braverman and Stiglitz suggest that the development of effective rural financial institutions would reduce the likelihood of these negative effects on equality and productivity. They caution though that past attempts in creating such institutions largely failed because of a lack of accountability and of enforcement procedures.

This paper, a product of the Agricultural Policies Division, Agriculture and Rural Development Department, is forthcoming in Pranab Bardhan, ed., *The Economic Theory of Agrarian Institutions*, Oxford University Press. Please contact Cicely Spooner, room N8-039, extension 30464.

177. Cash Flow or Income?: The Choice of Base for Company Taxation

Jack M. Mintz and Jesús Seade

Cash flow and equity income are two alternative bases for company taxation. Before a country implements a cash-flow tax, it must first sort out problems arising from administrative complexities — particularly tax evasion — from international tax coordination and competition, and from the problems of transition.

Cash flow and equity income are two alternative bases advocated for company taxation. Recent literature has stressed the merits of the cash-flow tax because of its simplicity and its neutral impact on capital and financing decisions. But cash flow taxation merits a closer look in terms of:

- Administrative complexity.
- International tax coordination and competition.
- Transition problems.

International issues and administrative complexities — particularly tax evasion — present problems that must be sorted out before a country decides to implement a cash-flow tax.

The motive for adopting a company tax depends in part on the type of personal tax that is desired and the degree to which a country may wish to withhold income from foreigners. But the question arises in policy debate about whether a particular tax base can be effectively implemented, taking into account administrative weaknesses and requirements — as well as other (especially international) considerations.

In a closed economy — especially one that relies on a personal consumption tax — the cash-flow tax seems a simple, efficient form of company taxation, administratively straightforward and neutral with regard to investment decisions. The more complicated equity-income tax is harder to defend in a closed economy.

Few countries have had experience with cash-flow taxes, however, so it is impossible to predict what administrative and other practical difficulties such a tax will pose

In a country with a large foreign-owned sector, the equity-income tax may be the best form of tax for withholding income from foreigners. This is particularly true if the tax is credited against foreign taxes and so, in certain circumstances, has little effect on investment. Otherwise, the tax is distortionary.

A case can be made for the cash flow tax in an open economy as well. Sometimes — for example, with petroleum and mining royalties, which are meant to be taxes on resource "rent" — taxes are not credited at all against foreign taxes. The cash flow tax has the virtue of being neutral, while continuing to withhold rents accruing to foreigners. (A value-added tax on a destination basis does not do so, since the tax is paid only by residents.)

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699 (45 pages).

178. Tax Holidays and Investment

Jack M. Mintz

The tax holiday — designed to encourage capital investments — actually penalizes long-term investments in some countries with high inflation rates and relatively fast writeoffs for depreciable capital.

The tax holiday — an incentive frequently used in developing countries to encourage capital investments — offers benefits for short-term investments but could in fact penalize long-term capital investments.

For some countries with high inflation rates and relatively fast writeoffs for depreciable capital, the effective tax rate on long-term investments is higher during the tax holiday than after.

For one thing, the tax law may require assets to be depreciated during the holiday. If so, the value of tax depreciation writeoffs — which is not indexed for inflation — may be lower than the true economic cost of depreciation.

For another, the tax benefit of nominal interest deductions associated with debt financing of capital are of no value to the firm during the holiday — whereas after the holiday they may be quite beneficial.

After estimating the effective tax rates on capital for holiday and post-holiday investments, the author concludes that for some countries the effective tax rate on long-term capital is highter during the holiday than after.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699.

179. Public Sector Pricing in a Fiscal Context

Christopher Heady

If administered prices are to generate revenues, they should deviate from marginal cost and should be determined on the basis of their economy-wide effects, without regard to financial targets. It is better to raise prices above marginal cost through taxes than by raising the price received by the enterprise.

Administered prices should deviate from marginal cost if they are to be used as instruments to generate revenue.

The analysis is based on the Bank's two-step approach to public sector pricing: first calculating marginal cost, and then adjusting it to account for other factors. The aim is to show how those adjustments should be made to account for fiscal concerns. Such adjustments are not

widely used at present.

The appropriate basis for pricing in the first step, the author contends, is a weighted average of short and long-term marginal costs.

Deviations from marginal cost in the second step are shown to depend on their revenue-raising, distortionary, and distributional effects.

Imposing financial constraints may be an inefficient method of achieving fiscal objectives. It is better to decide prices on the basis of their economy-wide effects without regard to financial targets — and then, if necessary, to impose financial targets that are consistent with those prices.

The author argues that it is better to raise prices above marginal cost through taxes than by raising the price received by the enterprise.

Metering problems prevent direct observation of the use of publicly produced goods — a problem that particularly affects road user chargers. The author discusses how to set charges in the face of metering difficulties, stressing the need to set uniform charges and to make indirect charges on inputs.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699 (55 pages).

180. Structural Changes in Metals Consumption

Boum-Jong Choe

An extended model of metals demand suggests that the downturn in the intensity of metals consumption during the last 15 years can be explained largely by changes in input variables, including capital and energy, rather than by changes in the structure of demand.

For 15 years the metals market has been characterized by slow growth — in some cases, even decline — in consumption.

To test the proposition that structural changes in demand were the main cause of the slowdown, the author — drawing on U.S. data — used an extended metals demand model that recognizes energy, labor, capital, and other materials as major inputs.

The traditional model explains metal consumption in terms only of output and the prices of metal and its substitutes. It is inadequate to address the issue of structural change because it ignores other important factors of production, such as energy, which have experienced dramatic changes.

With the extended model, the null hypothesis of no structural change cannot be rejected for most metals. With the conventional model, the null hypothesis of no structural change is strongly rejected.

Results with the extended model show that the downturn can be explained mostly by changes in the input variables, particularly such nonmetal inputs as capital and energy, which are much more important cost items than metals and have undergone drastic changes over the period.

This paper is a product of the International Commodity Markets Division, International Economics Department. Please contact Sarah Lipscomb, room S7-062, extension 33718 (25 pages with charts and tables).

181. Public Finance, Trade, and Development: What Have We Learned?

Johannes F. Linn and Deborah L. Wetzel

Failure to consider explicitly the many intricate relations between trade and public finance policies will often lead to inconsistent and unsustainable policies, thus hindering a country's trade and development prospects.

The interdependence of trade and public finance policy are important considerations in designing macroeconomic policy, public revenue policy, and public expenditure policy. For example:

- A competitive real exchange rate, improved trade performance, and trade liberalization are all built on the base of sound fiscal management. Trade policies and trade liberalization may, however, have a negative effect on fiscal balances, which must be considered and compensated for.
- Improving competitiveness and reducing protection is likely to involve reform of both trade tariffs and domestic taxation. Greater reliance on efficiently designed user charges will also help make a country more competitive internationally
- Correct priorities should be set for public expenditures — whether they are rising or falling — to ensure that they are supportive of trade and of tradable goods production.

This paper is a product of the Office of the Vice President, Development Economics. Please contact Maureen Colinet, room S9-029, extension 33490 (28 pages with tables).

182. Latin America's Experience with Export Subsidies

Julio Nogués

The failure of export subsidies, particularly in Argentina, should remind us to distinguish what is possible *from what is* likely. *In Latin America the money would be better spent on infrastructure, health, and education.*

Twenty years ago, it was believed that export subsidies would produce more diversification and better export performance. This has not happened. Why?

In most cases, export subsidies were not supported by more open import policies — so subsidies reduced only marginally the anti-export bias of Latin American countries. Unstable real exchange rates have also hurt exports.

Export subsidies appear to have improved exports in Brazil, which also liberalized imports, significantly stabilized real exchange rates, and promoted other policies conducive to export growth. Yet Mexico, after reducing import barriers, also enjoyed improved exports — with minimum export subsidies, and with apparently lower social costs than Brazil experienced.

Export subsidies have failed in other Latin American countries — and particularly hurt development in Argentina, where fraud, corruption and rent-seeking have been rampant.

Participants in the current Uruguay Round of international negotiations seem to be seeking two different goals on subsi-

dies and countervailing measures (CVMs). Supporters of subsidies want to make it more difficult to introduce CVMs; countervailers want more stringent rules on subsidies. Both subsidies and CVMs are viewed as good policies by their users. But empirical evidence does not support these policies, and export subsidies and CVMs entail other costs to the societies using them.

The failure of export subsidies, particularly in Argentina, should remind us of the importance of distinguishing what is possible from what is likely, contends the author. The likelihood of subsidies improving exports is low, when they are applied in a context of high import protection and unstable real exchange rates.

Finally, export subsidies compete with other government programs and — especially considering their failure rate — should be dismantled in this period when the welfare of Latin Americans has declined dramatically. The money would be better spent on infrastructure, health, and education projects.

This paper is a product of the International Trade Division, International Economics Department. Please contact Salome Torrijos, room S8-033, extension 33709 (38 pages with tables).

183. Private Investment in Mexico: An Empirical Analysis

Alberto R. Musalem

In 1985, Mexico shifted to a growth strategy based on private investment and exports rather than on import substitution and public sector investment. The policy implications of this study are that to increase investment, Mexico should follow policies aimed at reducing investment adjustment costs and increasing factor mobility and credibility in the program of structural reforms rather than at subsidizing investment.

Mexico's past growth strategy — based on import substitution and public sector investment — proved unsustainable in the face of the financial crisis and the drop in oil prices. Moreover, with strong linkages between public and private investment, cutbacks in one forced cutbacks in the other. The result was a magnified cost of adjustment.

To resume sustainable growth, the Mexican authorities adopted a new strategy whereby private investment and exports rather than import substitution and public sector investment would lead growth. However, in the past, investment responded extremely slowly to changes in the incentive system. This behavior may reflect high adjustment costs, uncertainties, risks, and credibility problems induced by past macroeconomic instability. Also, distortions in the factor and goods markets may have impaired the mobility of resources. Consequently, structural reform began with the 1985 trade reform, and was strengthened by the privatization of public enterprises, economic deregulation, and tax and financial sector reforms.

Further trade liberalization may be needed — removal of the remaining quantitative restrictions, particularly on imports of used capital goods — to encourage investment, both directly (through the price effect) and indirectly (as an instrument to promote trade and capacity utilization).

To the extent that trade liberalization is not accompanied by policies that facilitate real exchange rate depreciation, investment would be affected in two ways — first, profitability in the tradeables sector would be reduced in the short run, increasing adjustment costs and impairing resource mobilization. Second, expectations of real depreciation will build up as economic agents anticipate that the long-run equilibrium level of the real exchange rate consistent with import liberalization is higher. As a result, destabilizing capital outflows may increase real interest rates and reduce confidence in the government's ability to sustain trade policies.

As stabilization efforts continue, expectations of inflation will be reduced, increasing the demand for money and therefore the real interest rate. As the government continues its policy of relying less on the inflationary tax, however, favorable developments may follow:

- Financial deepening will reduce intermediation costs and spreads, increase access to financial services, and stimulate investment.
- The unanticipated risk of capital losses on holding domestic assets will decline, thereby increasing their liquidity and demand, and reducing the real interest rate.
- The improved macromanagement will make relative prices less volatile, will reduce uncertainties, risks, and adjustment costs, and will increase the short-term investment response.

This paper is a product of the Trade, Finance, and Industry Division, Latin America and the Caribbean Country Department II. Please contact Lerick Spear, room I8-127, extension 30081 (32 pages with charts and tables).

184. Women and Forestry: Operational Issues

Augusta Molnar and Götz Schreiber

Involving women in forestry projects often makes the difference between achieving or not achieving project objectives. Moreover, involving women need not be costly and almost always produces a higher return on project investment.

Women are major actors in forestry throughout the developing world. Women and children are the primary collectors of fuel and fodder for home consumption and for sale to urban markets. This alone gives women a major role in the management and consevation of renewable forest resources. When convinced of the utility and practicality of a forest improvement or management scheme, women can be a powerful lobby to persuade their entire household or community to invest the resources necessary to make the scheme work. Involving women in forestry projects often makes the difference between achieving or not achieving project objectives, particularly for the long-term sustainaility of interventions.

Under a project in Senegal, in some villages both women and men were consulted about their species preferences. Women favored a mix of forage and shade species to go with the income-producing species most favored by men. Tree survival was much higher in these villages, because the women responsible for watering the trees (given the gender-specific division of labor) were more diligent than the women who had no influence on the

choice of species.

Because of their traditional reliance on forestry resources, women are often the chief repositories of knowledge about the use and management of trees and other forest plants. They also make up much of the labor force in forest industries: nurseries, plantation establishment, logging, and wood processing. Nor are they exclusively subsistence-oriented: their agroforestry preferences include commercial fruits and (pole-generating) cash-crop trees as well as fuel and fodder species.

This paper provides operational guidelines — intended to be taken on mission for guidance during field work:

- What information to get and issues to address during project preparation, preappraisal, and appraisal — as well as during project supervision, monitoring, and evaluation.
- How to analyze project costs and benefits with women in mind.
- How to design specific forestry interventions.

Designing interventions in the forestry sector with gender in mind is likely to change the scope and economic potential of investments. Where women's groups have taken an active role, the choice of species has been broader and has led to a greater diversity of products for sale or home use. Attention to the nutritional potential of forests can improve diets and thereby increase the long-term enterprises — both wood and nonwood — can be developed to place equal emphasis on women's roles in marketing and production, increasing employment and income.

This paper is a product of the Women in Development Division, Population and Human Resources Department. Please contact Mila Villar, room S9-127, extension 33752.

185. Uniform Trade Taxes, Devaluation, and the Real Exchange Rate: A Theoretical Analysis

Stephen A. O'Connell

Theoretically, uniform trade taxes (uniform tariff-cum-subsidies) are equivalent in effect to devaluations of the commercial rate in a dual exchange system — if one disregards smuggling and customs fraud. When either form of illegal trade is factored in, this equivalence is broken, and the real exchange rate may actually appreciate in response to an increase in the uniform trade tax rate. When illegal trade takes the form of customs fraud, the rate for exportables will depreciate, but the rate for importables will appreciate.

The author of this paper analyzes the macroeconomics of uniform trade taxes — uniform tariff-cum-subsidies, or UTCSs — by comparing UTCS policies as an alternative to devaluation of the exchange rate.

The model he sets up establishes a basic equivalence between UTCS schemes and devaluation of the commercial rate in a dual exchange rate system. This equivalence disappears when smuggling and customs fraud are incorporated into the model.

In the flexible price, full employment world of the model, a UTCS scheme can change the real exchange rate if either smuggling or customs fraud is going on. What is striking, however, is that when smuggling is factored in, using a UTCS to raise the relative domestic price of traded goods may backfire and actually appreciate the real exchange rate. If customs fraud is factored in, the real exchange rate will appreciate for importables but will depreciate for exportables.

The author suggests further extensions to his model for a reasonably full understanding of the macroeconomics of UTCS schemes. First, he would incorporate distortionary means of government finance into the analysis of illegal trade. One of the primary results of a UTCS scheme, when there is illegal trade, is to transfer income from the public to the private sector. This revenue shock is likely to add to the welfare burden of the UTCS scheme, when the government cannot levy lump-sum taxes.

Second, he would add investment to the model and investigate the relationship between investment response, the real exchange rate, and fiscal revenues under a UTCS when the government goes not have lump-sum taxes. The tariff component of a UTCS satisfies the government's relative price and revenue objectives simultaneously, but the export subsidy component brings out a conflict between the two objectives. The government may therefore have an incentive to renege on the export subsidy component of the package.

Finally, a parity change (devaluation) or a UTCS scheme could be used to alleviate transitional unemployment due to sticky nominal wages in the short run. The author suggests examining the tradeoffs between the direct contractionary effects of the two policies and their expansionary effect through the tradeables product wage.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Aludia Oropesa, room N11-035, extension 39075 (47 pages with charts).

186. The Uruguay Negotiations on Subsidies and Countervailing Measures: Past and Future Constraints

Patrick A. Messerlin

Countervailing actions are likely to be a poor instrument for limiting subsidies for the same reason that antidumping actions are likely to be a successful way to support cartelization. To strengthen disciplines on countervailing measures would be meaningless without narrowing the definition of dumping and strengthening disciplines on antidumping procedures.

The Uruguay Round Negotiating Groups on countervailing and antidumping procedures share many common issues. This is not accidental, contends the author, but mirrors the way import-competing firms have become the driving force of antidumping and countervailing procedures set up under the Tokyo Round.

The cases initiated since 1980 by the United States and the European Community illustrate what Tumlir has called the "tempting accommodation" in lawmaking: ill-defined (economically and politically ambiguous) laws producing "do-something" regulations with unexpected long-term effects. The result in this case is a fundamental imbalance in the use of the antidumping and subsidy codes. U.S. and EC firms have increasingly used countervailing and antidumping procedures as a protectionist tool against the same few industries.

Countervailing actions are likely to be a poor instrument for limiting subsidies for economic reasons inherent in the profit-maximizing behavior of the complaining firms — not necessarily because of poorly designed provisions in the code. Economic forces impose limits on what can be expected from a subsidy code. For the same reason, antidumping actions are likely to be a successful way to support cartelization.

For many economists, first-best policies rely on self-disciplines on subsidies. This goal is politically difficult to achieve. The price paid to get wider support for stricter disciplines on subsidies seems to be to tolerate countervailing procedures and impose strong disciplines on their use.

However, to strengthen disciplines on countervailing measures would be meaningless without narrowing the currently pervasive definition of dumping and strengthening disciplines on antidumping procedures. This is related to the fact that U.S. and EC firms have increasingly used antidumping procedures as a substitute for countervailing actions.

The author underlines the importance of disciplines in antidumping procedures by noting the links between antidumping, safeguard procedures, and the Multifibre Arrangement.

This paper is a product of the International Trade Division, International Economics Department, Please contact Salome Torrijos, room S8-033, extension 33709 (35 pages with charts and tables).

187. Linking Wages to Changing Output Prices: An Empirical Study of 13 Industrial Countries

Menahem Prywes

In many countries, wages are indexed to consumer prices, protecting the real income of workers in the short run. To protect employment against external shocks that lower profits, developing countries with outward-oriented development strategies should consider linking wages to the value-added output price.

A shock that lowers profits depresses employment less when wages are flexible in terms of the value-added output price. This kind of flexibility allows a country to remain competitive in world markets when a shock to profits lowers its value-added output price.

In many countries, wages are indexed to consumer prices, thus protecting the real income of workers in the short run. Some industrial countries link wages more closely to the value-added output price. In Japan, for example, bonus schemes link wages to profits. The value-added output price is built from data on wages and profits, so the bonus scheme links wages implicitly to the value-added output price.

Estimates of the elasticity of wages in terms of the value-added output price are high, significant, and of a theoretically plausible magnitude in three industrial countries that perform well in world markets: Japan, Germany, and Switzerland. This suggests that developing countries with outward-oriented development strategies should promote this kind of wage flexibility.

The output price elasticity of wages also appears to be high in two industrial countries that produce primary products: Canada and Australia (although estimates for these countries are lower in quality). This may reflect the difficulty of passing wage increases on to higher commodity prices. Wage flexibility may be particularly important for developing countries exporting primary products.

This paper is a product of the International Economic Analysis and Prospects Division, International Economics Department, Please contact Joseph Israel, room S7-218, extension 31285 (27 pages with tables).

188. International Differences in Wage and Nonwage Labor Costs

Luis A. Riveros

Labor costs declined significantly in most developing countries in the 1980s. The impact of declining labor costs on manufacturing employment was statistically significant — and bodes well for the growth of nontraditional exports.

The ratio of nonwage labor costs (for social security, pensions, vacation days, severance compensation, and the like) to direct wage costs is proportionately higher in Europe and Latin America than in Asia and Africa — largely because workers there are protected more by regulations.

The distortionary growth of labor costs because of increasing nonwage costs is not common in the less developed countries (LDCs), however. The author of this paper found that international differences in labor costs are attributable largely to differences in labor productivity and capital-labor ratios.

He also found that labor costs declined significantly in almost all LDCs in the 1980s, and that the impact of declining labor costs on manufacturing employment was statistically significant — and bodes well for the growth of nontraditional exports.

This decline was not accomplished through deregulation of the labor market — the ratio of nonwage costs to labor earnings remained persistently significant — but mainly through macroeconomic factors, particularly inflation and nominal devaluations.

The opportunity cost of labor was distorted more by nonwage costs in the poorest LDCs, where the small size of the formal sector contrasts with the relatively high degree of worker protection. The countries that do better in manufacturing exports seem to have both relatively few labor market regulations and, in the long run, rising labor costs.

Adjustment programs that favor export promotion and higher labor mobility should probably also favor reducing government intervention that increases labor costs. Nonwage costs do not seem to be the most distortionary labor market factor in LDCs, however. Job security laws and regulations — by reducing worker mobility between labor and agriculture — permit manufacturing labor costs to increase. This presents a major difficulty in carrying out industrial adjustment based on opening up the economy and realigning the exchange rate.

International differences in labor cost levels are important, especially when one compares LDC and industrial economies. But differences between labor cost levels in terms of per capita output are not so large. This suggests the importance of different capital-labor ratios.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department,

Please contact Raquel Luz, room N11-057, extension 39059 (56 pages with tables).

189. The Treatment of Companies Under Cash Flow Taxes: Some Administrative, Transitional, and International Issues

Emil M. Sunley

Cash flow taxes eliminate many of the problems of the corporate income tax, but they have significant administrative, transitional, and international problems, especially for developing countries.

The author begins his discussion of the cash flow tax by outlining the major administrative and compliance issues. There are problems with the tax because of the numerous possibilities for gaming the system (particularly if financial flows are left out of the tax base), the appropriate treatment of employee benefits and business entertainment, and the treatment of money-losing companies. In addition, the cash flow tax has the same problem as the corporate income tax in dealing with companies that do not use aboveboard accounting procedures.

The paper goes on to discuss the problems involved in the transition from a corporate income tax to a cash flow tax. First, carryover problems arise because income deferred under the income tax may never be taxed under the cash flow tax and income previously taxed by the income tax may be taxed a second time. Second, changes in asset prices arise because changes in the tax law affect expected after-tax cash flows, causing either windfall gains or losses. There are ways around these problems but they cause further ones. Sunley outlines these secondary problems and possible solutions to them but concludes that there is no easy way to orchestrate a totally smooth transition.

The international aspects of imposing a cash flow tax are most troublesome. After a summary of the major international income tax rules, Sunley discusses how the cash flow tax treats inbound investment, outbound investment, and exports and imports. It is likely that a cash flow tax imposed by a developing country would not be creditable against the U.S. income tax. In addition, it would be difficult to provide a border tax adjustment for a cash flow tax.

The paper concludes by proposing that the tax base be defined in terms of financial income with certain specified adjustments, such as depreciation and extraordinary items. The proposal is in some depth, including a simplified system of tax depreciation.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699 (42 pages).

190. Macro Performance Under Adjustment Lending

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

Bank-Fund adjustment lending apparently improves economic performance mostly by relieving the foreign exchange constraint and allowing for the purchase of crucial foreign intermediate goods.

The authors of this paper used simple statistical methods to measure the effect of adjustment lending (AL) on economic performance. Using eight economic indicators, they relied on traditional "before-after" comparisons of AL recipients and a control group of 63 countries.

How have countries under adjustment lending performed? AL countries improved their external position, generating enough of a trade balance surplus to service their external debt. Fiscal (and inflation) indicators deteriorated, however, a sign that macroeconomic imbalances remained. Finally, growth rates fell, reflecting deteriorating terms of trade and the difficulties of reducing absorption to the required degree.

On nine economic indicators, AL recipients fared better overall than the non-recipients — although improvement varied between 53 and 63 percent, depending on the classification. Some improvements were mild, some statistically insignificant. Improvements are stronger for a group of 12 AL recipients that received 3 or more adjustment loans.

Results appear stronger when the analysts control for the potentially negative effects of the external environment on performance: AL recipients appear to do better than the control group. The control group is small, however, so the results are not statistically robust.

The intensity of Bank-Fund involvement contributes significantly to better performance for most indicators — except that intensity of Bank-Fund lending correlates negatively (and significantly) with the share of investment in GDP. Gven the positive correlation of lending intensity with GDP growth and import growth, it would appear that Bank-Fund lending improves economic performance mostly by relieving the foreign exchange constraint and allowing for the purchase of crucial foreign intermediate goods.

Adjustment lending was intended to elicit a supply response: for a given expenditure-switching policy, the trade balance was expected to improve more. Alternatively, AL recipients were expected to achieve a given improvement in trade balance (controlled for changes in terms of trade) at less cost than non-recipients in terms of forgone growth. Correlations for a group of 30 countries that received their fist Bank adjustment loan by 1984 show that AL recipients experienced higher average growth and improved their trade balance more than non-recipients. The tradeoff between growth and improvement in external balance, however, was the same for both groups.

This paper is a product of the Public Economics Divsion, Country Economics Department. Please contact Maria Ameal, room N10-035, extension 37947 (35 pages with charts and tables).

191. Openness, Outward Orientation, Trade Liberalization, and Economic Performance in Developing Countries

Sebastian Edwards

The paper provides a critical review of the existing empirical literature that deals with the relationship between trade orientation and economic performance. Using a model that avoids the shortcomings of most current measures of trade orientation, the author finds strong support for the hypothesis that, other things being equal, countries with a less distorted external sector grow faster than countries

with a more distorted external sector.

A major shortcoming of the current policy debate is its increasingly dichotomized, ideological tone. In the last few years, not only have positions become more rigid, but there is also increasing confusion about the meaning of key concepts such as liberalization and outward orientation. The author detects three main shortcomings in the current debate:

• By thinking in dichotomies, we have lost the notion of trade regimes as existing along a continuum.

• We no longer understand "liberalization" as a process that can operate at different intensities.

• A number of writers confuse "liberalization" with "laissez faire," with the result that people sometimes advocate what seem to be contradictory positions (e.g., favoring openness and an outward orientation at the same time as opposing liberalization).

To rescue the policy debate trade regimes can be thought of as existing along a continuum, with the terms

• *Outward* and *inward* orientation denoting whether policy emphasis is on the domestic market or international trade.

• *Trade* and *closed* describing the degree of an economy's openness. At one (the closed) end of the spectrum would be *import substitution* (deliberate discrimination against imports that compete with domestically produced goods). At the other end would be *export promotion*. In the middle would be an *open economy* — one with a neutral trade regime, in which trade represents a large share of GDP. A *liberal regime* would fall between open economy and export promotion.

• *Liberalization* being defined as a process that makes greater use of the price system, makes the trade regime more transparent, and brings domestic prices closer to world prices. The vagueness of this definition disappears as soon as we provide information about the initial trade regime and the intensity of the liberalization process.

Is there a relationship between how liberalized a trade regime is (how close it is to laissez faire) and economic performance? Is there an "optimal" trade regime? If so, is that optimal regime independent of a country's specific characteristics?

The author discusses the new theories of economic growth and assesses their usefulness for analyzing the relationship between trade orientation and growth in the developing countries. Using a growth model that relates trade orientation to the ability to absorb technology from the rest of the world, he tests the model using an index of trade orientation that is (1) objective, (2) allows for a continuum of regime, and (3) comparable across countries.

The results — using cross-country data — strongly support the hypothesis that, other things being equal, countries with a less distorted external sector grow faster than countries with a more distorted external sector.

This paper is a product of the Trade Policy Division, Country Economics Department, Please contact Maria Ameal, room N10-035, extension 37947 (60 pages with charts and tables).

192. Inflation, Price Controls, and Fiscal Adjustment in Zimbabwe

Ajay Chhibber, Joaquin Cottani,
Reza Firuzabadi, and Michael Walton

Inflation always has a monetary dimension, but managing inflation is not a simple question of monetary management. Other factors to contend with are the indexation process (including policies on wage and price controls), the level of financial composition of fiscal deficits, and supply conditions. How these interact has crucial implications for policy design, as shown in this paper on Zimbabwe.

Adjustment programs typically include not only fiscal reform but also price liberalization, devaluation, and trade policy reform — including reduced subsidies. Authorities implementing such programs commonly fear the potential inflationary effects of a combination of devaluation, reduced subsidies, and price decontrol.

Given this combination, a simplistic monetarist diagnosis of inflation is insufficient. If inflation — even if only in the short run — can rise because of devaluation or reduced subsidies, attempts to control it completely may require fiscal and monetary control so great as to cause recession. If cost-push factors arising from the adjustment program generate inflation, it may be necessary to allow for the inflation and plan for a slower adjustment program, one that is more acceptable socially. The design and pace of a successful adjustment program hinge on the correct diagnosis and management of inflation.

This empirical study of Zimbabwe is the first in a series that will include studies on Ghana, Cote d'Ivoire, and Malawi. The study addresses the impact of government policies on inflation and price changes. The authors characterize the situation in terms of the three main transmission mechanisms for inflation: the fiscal-monetary process; direct cost-push factors; and real factors.

All of these are important in Zimbabwe, but there are often conflicts. Low food or utility prices keep prices down but lead to higher subsidies and hence to higher deficits, the financing of which can increase inflation. Similarly, exchange rate devaluation is often viewed as inflationary, but insufficient exchange rate adjustment can lead to both parallel markets and a tight import constraint, resulting in lower growth of output.

The authors conclude that one must always go beyond a simple monetary account of the inflation process even if inflation always has a monetary dimension. Other significant factors are management of the indexation process (including policies on wage and price controls), the level and financial composition of fiscal deficits, and supply conditions.

This paper is a product of the Public Economics Division, Country Economics Department, Please contact Ann Bhalla, room N10-059, extension 37699 (74 pages with charts and tables).

193. Voluntary and Involuntary Lending: A Test of Major Hypotheses

Peter Nunnenkamp

The reversal of net international capital flows since 1982 is attributable more to reduced inflows of new bank credits than to higher debt service obligatiwons. Credible adjustment efforts would increase the creditors' willingness to lend new credits.

The author of this paper assessed the empirical relevance of various conjectures about what determined whether

creditors would issue loans to developing countries in the 1980s. He found that:

With the onset of the debt crisis, private creditors began to honor debtors who improved economic performance and policies — providing higher capital flows especially where investment ratios were higher. (The counterhypothesis that policy-induced improvements in the economic performance of problem borrowers resulted in reduced net transfers must be rejected.)

Private creditors were not prepared to compensate for unfavorable developments in the world market with additional lending. Small borrowers who did not benefit from involuntary lending had great difficulty attracting further capital inflows when they were hit by external shocks.

Standard sovereign risk arguments dominate when net transfers are to be explained. Creditors are not inclined to throw good money after bad, as some believed would happen. As default risks increased, so did their reluctance to increase net transfers. In deciding whether to continue lending, banks relied particularly on the effectiveness of trade sanctions.

Private creditors are reluctant to lend additional funds partly because most problem borrowers have not introduced consistent, far-reaching economic policy reform. Borrowers who want to reestablish their creditworthiness must intensify their adjustment efforts. Creditors are unlikely to honor policy efforts to which the debtor country's commitment is not credible, particularly if it seems the country will ultimately decide to default on its debt. Creditors are unlikely to be responsive if they lack information or suspect that borrowers will refuse to service external debt they are able to pay.

The author proposes creating an internationally binding legal system which, by reducing sovereign risks, would encourage private creditors to resume lending. One way to rule out sovereign risk would be to make transfer agreements self-enforcing — by supplementing the traditional credit contract with a third-party contract that is easily enforceable within the creditor's domestic legal system. Under this third-party contract, the debtor would be bound to pay a high premium in the case of willful default. This would discourage debtors from suspending debt-service payments they are able to pay.

If debtors are given more incentive to meet debt obligations through more efficient economic policies, creditors will be more likely to share the credit risks triggered by unfavorable developments in the world market, according to the author. As the distribution of credit risks between debtors and creditors improves, the capital outflow from developing countries will be checked.

This paper, prepared for the conference "Dealing with the Debt Crisis," is a product of the Debt and International Finance Division, International Economics Department. Please contact Sheilah King-Watson, room S8-025, extension 31047.

194. Efficient Debt Reduction

Jeffrey Sachs

Debt reduction poses collective action problems that cannot be efficiently handled in the framework of voluntary market-based approaches. Instead we need concerted debt restructuring, based on below-market interest rates — perhaps linked with credit enhancement by offical creditors — to provide the most direct mechanism for efficient, equitable sharing of losses.

It is now widely acknowleged that under certain circumstances debt reduction can improve the welfare of both creditors and debtors. A large debt overhang can lead to inefficiencies that worsen the debtor's economic performance, thereby diminishing the creditor's expected returns. Leading banks and international financial institutions recognize this, but actual debt reduction has been remarkably limited. Bolivia remains the sovereign debtor that has been able to negotiate a fairly comprehensive debt reduction arrangement — and results have been favorable.

Why has there been so little progress in debt reduction?

Debt reduction poses important collective action problems that cannot be efficiently handled in the framework of "voluntary, market-based" approaches currently championed by the World Bank and the rest of the creditor community. Important distortions arise in the negotiating process because of the special position and incentives of the money-center banks and the recognized readiness of the official creditor community to contribute funds to avoid a breakdown of creditor-debtor relations.

Meaningful debt reduction requires an appropriate institutional setting to overcome collective action problems. In the domestic economy, bankruptcy law provides the framework for organizing the collective interests of the creditors when a debtor is distressed. No such institutional framework yet exists in the international setting. Under current incentives, voluntary debt relief is bound to mean no more than a continuing nibbling away at the edges of the debt overhang, without real relief for the debtor or real benefits for the creditors.

The author recommends "concerted debt restructuring," based on below-market interest rates, rather than "voluntary" debt reduction. With concerted relief, all banks would participate jointly on a fairly equal basis. The existing debt would be rescheduled at below-market interest rates, with the rates based on various indicators of ability to pay and decided in negotiations between the debtor country and creditor banks. The interest payments could be made more secure for the banks by various forms of credit enhancement, including collateralization, guarantees by the official creditor community, and escrow accounts in which export earnings are deposited for the purpose of future debt servicing. This approach would provide the most direct mechanism for an efficient, equitable sharing of losses among the creditor banks.

This kind of interest-rate reduction could be easily managed in the context of an international debt facility. Whatever the approach, meaningful debt reduction will require the active participation of the international community.

This paper, prepared for the conference "Dealing with the Debt Crisis," is a product of the Debt and International Finance Division, International Economics Department. Please contact Sheilah King-Watson, room S8-025, extension 31047.

195. How Has the Debt Crisis Affected Commercial Banks?

Harry Huizinga

Top commercial banks seemed to have weathered the debt crisis. It remains to be seen whether their current strength and stability will help re-establish normal credit relationships between private banks and the developing countries.

To what extent can commercial banks absorb loan losses from the less-developed countries (LDCs)? Some losses by private creditors are likely to be part of any resolution of the debt crisis, and such losses are implicit in some of the many proposals for dealing with the crisis.

Bank stock prices for U.S. commercial banks already reflect a high discount on (and the low quality of) developing country debt — so no major U.S. bank is likely to fold if it gets a return on its LDC debt consistent with the prices of LDC debt on the secondary market. The top banks in Canada, France, Japan, the United Kingdom, and West Germany are less heavily exposed to LDC debt than their U.S. counterparts — and thus correspondingly less imperiled by the debt crisis than the U.S. banks.

The relative safety of most of the top creditor banks renders their insistence on full servicing of the LDC loans less urgent and should in principle open the door to partial debt forgiveness. It also, however, enables the banks to boycott the by now routine schedulings and new money packages and at the same time to withstand the accounting consequences of such a move.

Some form of debt forgiveness may in practice lead to a quicker resumption of private capital flows to the LDCs and increased investment in the developing countries. But such flows may never again reach the avalanche proportions of the 1970s, which resulted from the unique coincidence of sluggish economic growth in the OECD, large OPEC surpluses, and a number of regulatory changes in the creditor countries that directed bank lending overseas.

It may take time, but through a combination of self-interest and public policy the current impasse in the debt crisis should be overcome. This may be done partly through large-scale debt swaps sponsored by private or public agencies. Debt swaps are already being implemented bilaterally in small steps and through a variety of instruments, including debt conversions and buybacks.

This paper, prepared for the conference "Dealing with the Debt Crisis," is a product of the Debt and International Finance Division, International Economics Department. Please contact Sheilah King-Watson, room S8-025, extension 31047.

196. A Review of Alternative Debt Strategies

Eugene L. Versluysen

Seven years later, international debt strategy has not moved beyond crisis management. If conditions worsen, the political obstacles to formal, involuntary debt forgiveness may have to be removed.

This comprehensive review of debt strategies includes recent debt proposals that recommend alternatives to market-based debt workouts. Proposals differ widely depending on whether they seek new lending or broad-based debt relief and forgiveness. Their common, explicit aim is to reduce the negative net resource transfers to the creditors and to ease the debt burden of the highly indebted countries.

Commercial creditors and official circles in industrial countries have so far shunned the idea of interest concessions or debt forgiveness to highly indebted countries. Governments have a political problem using public funds ("taxpayers' money") to finance debt concessions and/or to protect banks from country defaults, particularly in an environment of budgetary austerity. Banks fear that large-scale involuntary debt reduction would entail substantial write-offs which — if they exceeded existing loss provisions and eroded capital — could harm highly leveraged banks. There is also ideological resistance to the idea of resolving a "market" problem — debt recovery by private commercial banks — by non-market means. And both official and market creditors point to the risk of moral hazard — that formal concessions would "reward bad conduct," penalizing countries that have persevered with adjustment. These arguments tend to gloss over the increasing politicization of the problem in debtor countries themselves.

So far creditors have stayed one step ahead of the debtors. Banks have trimmed their exposures and accumulated large provisions to reduce their vulnerability to defaults; creditors have increasingly recognized the pragmatism of selective voluntary debt reduction; industrial countries and multilateral agencies have stepped in with sizeable emergency loans and lending commitments to deal with isolated crises with individual debtors (most recently in Mexico and Argentina). The international community has raised the stakes as needed but after seven years the debt strategy has not yet moved beyond crisis management.

If Latin American debtors revive the idea of a "debtor cartel," or if social or economic conditions worsen (with a world recession, for example), crisis management may no longer suffice. A purely political decision may then be necessary to remove obstacles to formal, involuntary debt forgiveness. The amount to be forgiven under such conditions could turn out to be higher than if more timely action had been taken.

This paper, prepared for the conference "Dealing with the Debt Crisis," is a product of the Debt and International Finance Division, International Economics Department. Please contact Ereney Hadjigeorgalis, room S8-013, extension 33729.

197. Differentiating Cyclical and Long-Term Income Elasticities of Import Demand

Fernando Clavijo and Riccardo Faini

An import demand model that distinguishes between cyclical and long-term responses supports the claim that import demand in developing countries is more responsive to short-term than to long-term fluctuations in income.

How do imports react to cyclical and secular (long-term) factors? the evidence suggests that cyclical income elasticities of import demand are generally higher than long-term elasticities — particularly for basic materials and semi-manu-

factured goods.

Traditional models for import demand generally underestimate the cyclical response in imports, and overestimate the long-term response. This has important implications for forecasting short-term import flows in developing countries. For example, estimates of income elasticity using a traditional import model developed by Pritchett and Bahmani-Oskooee average 1.4 and 1.2 respectively.

Clavijo and Faini's model suggests a cyclical elasticity averaging 2.6. Khan and Ross found for a sample of 14 industrial countries that cyclical income elasticity averaged about 40 percent higher than trend income elasticity. The authors' results suggest that the two elasticities may differ by an even larger factor for developing countries.

Relative prices generally are more important in determining import demand in Latin America and Asian-Pacific countries in Clavijo and Faini's sample, but seem to have little effect in the African and (perhaps surprisingly) Mediterranean countries. In countries for which both cyclical and long-term income elasticities are significantly different from zero, relative price coefficients are also significantly different than in countries for which income parameters are not significantly different from zero. Including the cyclical component in the model seems to improve not only the fit but also the performance of the equation.

This paper is a product of the Trade Policy Division, Country Economics Department. Please contact Karla Cabana, room N10-037, extension 37946.

198. Equity in Unequal Deductions: Implications of Income Tax Rules in Ghana and Nigeria

Chad Leechor and Robert Warner

In many African countries, the size of a taxpayer's personal deduction increases with his income. Does this rule give the rich more of a tax break than the poor? Is a standard (fixed) deduction needed to allow for progressivity? The answers may surprise you.

At first glance, allowing the personal deduction on income tax to increase as the taxpayer's income increases appears to give larger tax breaks to the rich than to the poor. On closer examination, this notion turns out to be false. As the authors of this paper learned, each tax system with "income-dependent tax deductions" (IDTDs) is fully equivalent to a particular conventional progressive tax system with standard deductions.

Consider a given conventional tax schedule that has standard deductions and progressive tax rates. Suppose that you add a new rule to this system that provides an additional deduction equal to 10 percent of the taxpayer's income. This single reform measure has the same effect as a "liberalization" package consisting of (a) an increase of about 10 percent in standard deductions, (b) an enlargement of about 10 percent in all tax brackets, and (c) a reduction of about 10 percent on all marginal tax rates. The full equivalence of the two options may not be obvious — it was not to the authors.

In other words, a tax system with IDTDs is not less equitable than a conventional system with standard deductions. They are equivalent. The liberalization package in the example is typical in 1980s' tax reforms yet equity has not emerged as an issue. An equivalent tax reform option consisting of an IDTD rule, therefore, should not be a cause for concern. Substituting an IDTD rule for a liberalization package would leave the tax system effectively unchanged, although the two sets of tax rules appear to be different.

Should a country contemplating liberalization of the tax schedules simply adopt an IDTD? The answer is not easy. An IDTD is administratively simple, but its logic is not immediately transparent. It could be seen as inequitable, and it could be misused. The fixed percentage deduction could be relaxed, resulting in an unrestricted deduction. The IDTD could also be confined to one category of taxpayers, resulting in a true inequity — as with discrimination against the self-employed in some countries.

These caveats do not necessarily justify replacing an existing IDTD with an equivalent liberalization package. A taxpaying public long accustomed to income-determined allowances may vigorously oppose such a change. Even in an imperfect IDTD system, it may be strategic-ally preferable to correct the aberrations rather than eliminate the IDTDs and risk a tax revolt.

One implication for comparative tax research is that the tax schedule of a country that uses IDTDs should not be compared directly with a conventional tax schedule in another country. Existing cross-country work on tax deductions and marginal tax rates generally fails to recognize that IDTDs invalidate a straightforward comparison. To make the two systems comparable, a transformation like the one suggested in the paper is needed.

This paper is a product of thePublic Economics Division, Country Economics Department and the Country Operations Division, Western Africa Department. Please contact Ann Bhalla, room N10-059, extension 37699.

199. Private Sector Assessment: A Pilot Exercise in Ghana

Samuel Paul

Reform of Ghana's macropolicies has helped to create a more favorable business environment and a "level playing field" for the private sector. At this point, instead of further refining its policies, Ghana should begin strengthening the institutions to implement them, and improving the channels of communication between government and the private sector.

This private sector assessment of Ghana — confined to Ghana's industry sector because of limited data — concludes, among other things, that:

Reform of Ghana's macropolicy environment has helped to create a more favorable business environment and a "level playing field" for the private sector. Reforms have reduced entry barriers (except in labor) and encouraged greater competition in the industry sector. Much remains to be done, but important steps have been taken toward improving communications and transport infrastructure.

Important institutional constraints remain, however. At this juncture, instead of further refining its policies,

Ghana should establish a priority of strengthening its institutions and its capacity to support long-term private sector investment and production. Institutions to provide support services to the private sector — including credit, technology acquisition, investment promotion, adaptive research, training, and quality control — are weak in Ghana, and the policies to strengthen them must be thought through.

In particular, Ghana needs new institutional mechanisms for mobilizing resources and for improving the availability and allocation of credit. The current credit squeeze has favored short-term trading operations over long-term investment — and prospects for genuine long-term investment seem bleak. The lack of credit for new, small- and medium-scale entrepreneurs is the single most "felt" constraint on Ghana's private sector.

Incentives for private investment have been strengthened but the investment approval process must be speeded up and prior laws and regulations must be revised and brought in line with the new code. The case for reducing the Investment Code's bias toward capital-intensive investments, for example, should be reviewed.

The government must learn to communicate new policies and decisions fully to potential investors — whose confidence in Ghana's stability and policies remains a problem, partly because of inadequate dialogue between the private sector and the government.

Donors should focus more on core support and on the long-term actions needed for institutions to grow and survive.

Several steps go into a full-scale private sector assessment:

- An overview of the nature and scope of the country's private sector.
- A review of the policies, laws, and regulations affecting the sector(s) to be assessed — and of the capacity of the public institutions responsible for planning and implementing them.
- An assessment of the operating legal system and practices that affect the private sector (this was omitted for this assessment).
- A review of the private sector's common service institutions and of its channels for dialogue with the government.

This paper is a product of the Public Sector Management and Private Sector Development Division, Country Economics Department. Please contact Ernestina Madrona, room N9-057, extension 37496.

200. Women and Development: Objectives, Frameworks, and Policy Interventions

T. Paul Schultz

The private and social returns are high on investments to improve women's economic productivity — particularly education. Where women receive less education than men, efforts to redress that imbalance deserve priority. Measures to open women's access to information, technology, productive resources, and credit should also be tested far more extensively.

The contribution of women to an economy is in principle no different from that of men. But in practice, the problems of valuation, measurement, and policy inference are more complex — and the implications for policy and programs may be more controversial and culturally sensitive

Reviewing and integrating several lines of economic research on how women affect economic and social development, Schultz concludes that:

- Private returns to investment that enhance women's market productivity are high, notably in primary and secondary education, especially in regions where women now receive less education then men.
- These investments shift the allocation of women's time toward market work and away from home-based work.
- These investments benefit the health and nutrition of the women's children and immediate family members.
- These investments reduce desired fertility and increase women's ability to obtain and use family planning services more effectively.
- These investments make women more efficient managers of family resources of land, fuelwood, water, and food.
- Family planning and family health "outreach" programs especially help women, because women's mobility is particularly constrained by culture and the practical realities of childbearing and childcare.
- For similar reasons, extension or similar "outreach" activities can increase the productivity of women in home-based production, including agriculture and the provision and use of household water.
- Extension or outreach programs can correct factor market distortions, provide women with more equal access to agricultural and household technologies, and expand the effective supply of credit where women produce for market.

To give us more firm evidence than we have of how public policies affect women's productivity or family consumption patterns, Schultz recommends pilot programs to:

- Increase school enrollment and graduation rates for girls.
- Assess the effect of equalizing access to agricultural extension services by male and female farmers in Africa, South East Asia, and Latin America.
- Explore alternative configurations of child and maternal health programs, varying the mix of staff by level and gender.
- Evaluate program innovations in the delivery of credit, such as the Grameen Bank in Bangladesh.

All of these pilot programs should be designed to monitor the choices families make that affect whether they produce healthy and educated sons and daughters.

This paper is a product of the Women in Development Division, Population and Human Resources Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Johanna Klous, room S9-121, extension 33745.

Volume III

Numbers 201 – 300

201. How Much Fiscal Adjustment Is Enough? The Case of Colombia

William R. Easterly

Colombia's impressive fiscal adjustment during 1985-87 was due to structural changes in fiscal policy—not to the coffee boom. Further reduction of the fiscal deficit is required to reduce interest rates and inflation to more manageable levels.

Colombia's impressive fiscal adjustment during 1985-87 was due to structural changes in fiscal policy, concludes Easterly—not simply to such fortuitous events as the coffee boom.

Losses of public financial institutions were important in some other Latin American countries but there is no evidence that they were a major factor in Colombia. The data suggest that the Banco de la Republica and other public financial institutions suffered a small quasi-fiscal loss, but that that loss was not the dominant factor in fiscal behavior.

Although impressive, the fiscal adjustment fell short of actually improving the government's net financial position. Total public debt as a percentage of GDP was roughly unchanged from its 1984 value at the end of 1987, even after correcting for the effect of currency devaluation on dollar-denominated instruments. Public development lending as a percentage of GDP fell slightly during the same period.

Perhaps partly because of public debt behavior, real interest rates remained very high and inflation accelerated slightly. Improving on adjustment would probably require reducing interest rates and inflation.

Easterly's model simulations suggest that to reduce interest rates to more manageable levels would require continued reduction of the fiscal deficit, below levels currently envisioned. To reduce inflation would require even tighter fiscal policy.

The magnitudes of required deficit reduction do not seem out of reach however, even allowing for uncertainty about the figures. Continued policy initiatives would help Colombia confront the fiscal challenges of the 1990s.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 39059 (42 pages with tables).

202. Financial Policies, Growth, and Efficiency

Alan H. Gelb

Severely repressive financial measures typically result in slower growth and less efficiency. Growth affects profitability and thus interest rates -- but the reverse may also be true: interest rates and the degree of investment may affect efficiency and growth. The evidence supports the need for financial liberalization.

For a variety of reasons, most developing countries intervene extensively in financial markets. In the industrial countries, interest rates have been liberalized in the last two decades and restraints on competition between different types of financial institutions have been relaxed, but many developing countries still set ceilings on interest rates and spreads and most allocate much (often between half and all) of formal credit to "priority" uses.

The impact of interest rate controls and other repressive financial policies on investment, efficiency, and growth has been debated for some time. In this study, Alan Gelb reviews theories on both sides of the debate and investigates such relationships using a cross-section analysis of 34 countries between 1965 and 1985. He divides this 21-year period into two periods, breaking at the year 1973 to take into account the substantial change in growth relationships evident in many countries from about that time.

Real (deposit) interest rates in developing countries were lower on average than world (dollar) levels, especially after 1973 — despite these countries' supposed status as capital-scarce.

Gelb finds a significant positive correlation between growth rates and interest rates as well as between efficiency (the incremental output/capital ratio) and interest rates — but little relationship between interest rates and investment levels and no relationship between interest rates and the current account.

These relationships partly reflect the influence of growth on profitability and thus interest rates -- but there also appears to be a casual link in the other direction: interest rates and the degree of financialization of savings flows (in terms of both flow and stock) affect efficiency and growth.

The average growth difference between the 17 higher-growth countries and the 17 lower-growth countries was 3 percent. About half of one percentage point of that difference might have been due to the differential of 6 percent in the real interest rates of the two groups.

The evidence supports the need for liberalized financial markets, Gelb concludes -- or at least supports an argument against severe financial repression.

That is not to say that abrupt liberalization is desirable or that certain interventions in financial markets may not be beneficial -- at least until measures to improve information, supervision, regulation, and macrostability have become effective.

This paper is a product of the Financial Policy and Systems Division, Country Economics Department. Please contact Maria Raggambi, room N9-031, extension 37657 (34 pages with tables).

203. Optimal Commodity Taxes Under Rationing

Nanak Kakwani and Ranjan Ray

The results on a standard optimal commodity model change substantially when one or more commodities are rationed. The authors propose a more realistic model of rationing that overcomes some restrictive features of earlier rationing models.

How useful and relevant are the results of standard optimal commodity tax models when one or more commodities are rationed? Kakwani and Ray investigated the implications of optimal commodity taxation under rationing and reached these conclusions:

- In a single-person economy, optimal policy dictates that the rationed commodity bears the entire tax. The implication for developing countries using this model is that if the government has a fixed budget to subsidize certain commodities, optimal policy will be to subsidize only the rationed commodities, such as food.
- In a many-person economy (which reflects reality), optimal policy will tax all nonrationed commodies at an infinite rate if the rule is that taxes on all com-

modities are proportional to prices.

• The widely used linear expenditure system cannot be used to find a sensible optimal commodity tax structure under rationing.

• The more a society is concerned about inequality, the greater the tax should be on nonrationed commodities.

Kakwani and Ray present an alternative (more realistic) model of rationing that overcomes some of the restrictive features of the previous rationing model.

This paper is a product of the Welfare and Human Resources Division, Population and Human Resources Department. Please contact Maria Felix, room S9-114, extension 33724 (23 pages).

204. The Impact of Labor Costs on Manufactured Exports in Developing Countries: An Econometric Analysis

Luis A. Riveros

Are labor costs a major factor in the performance of nontraditional exports in developing countries? Yes. So are manufacturing capacity and the price of imported inputs.

Riveros estimated export supply elasticities in 20 countries on four continents using an empirical model in which manufactured exports are a function of the price of exports, the price of imported inputs, and labor costs relative to the price of home goods. He completed the export supply equation with a variable identifying manufacturing capacity and a variable associated with the role of internal absorption.

After testing for simultaneity, Riveros concluded that half of the countries must be treated as large countries — thus estimating the export supply function through two-stage least squares. He also explored other sources of endogeneity of right-hand side variables — the price of imported inputs, labor costs, and manufacturing capacity. He found that in many cases the estimates change significantly as a result of this procedure.

Riveros also concludes that expansion of exports is attributable largely to labor costs — defined as wage plus nonwage costs of labor. The role of manufacturing capacity and the price of imported inputs is also statistically significant in most countries. Finally, the negative effect of labor costs on exports is probably linked to the severity with which labor markets are regulated.

In general, the conclusions underscore the impact on exports of domestic economic policies — for example, promoting investment and productive capacity and keeping factor markets free of significant distortions.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 39059 (44 pages with tables).

205. What Determines National Saving? A Case Study of Korea and the Philippines

Sang-Woo Nam

Adjustment policy packages that curb inflation and improve the balance of payments but that retard growth may be self-defeating — as deteriorating growth sharply reduces national saving and limits the investment needed for adjustment.

For this analysis of national savings behavior in Korea and the Philippines — Asia's most heavily indebted countries — Nam conducted dynamic simulations to determine how major variables interact across sectors.

Changes in growth performance, more than anything else, were responsible for the sharp drops in aggregate savings in 1980-82 in Korea and in 1984-85 in the Philippines.

In Korea particularly, per capita income growth explained most of the changes in the national savings ratio during the last two decades. Savings in Korea are also significantly affected by interest rate policy. Indeed, interest rate reform in 1965 gave rise to increased savings.

In the Philippines, by contrast, a higher interest rate had a slightly negative effect — because the positive effect on household savings was more than offset by the negative effect on corporate and government savings.

Tax policy is a potentially effective means of mobilizing savings but the effect seems to vary by country.

The policy implications of these findings seem obvious. Any adjustment policy packages designed to curb inflation and improve the balance of payments should also be designed to encourage growth — which is needed to encourage savings and thus investment.

Overemphasis on maintaining positive real interest rates may also do more harm than good, because the benefits from a small increase in savings (if any) or more efficient investment allocation may be overshadowed by a decline in investment activity.

Sector studies are essential to effective national savings mobilization and the formulation of viable adjustment programs. Institutions and other factors that affect the behavior of economic agents are not the same in all countries.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 39059.

206. The Effects of Single-Sex Schooling on Student Achievement and Attitudes in Nigeria

Valerie E. Lee and Marlaine E. Lockheed

Single-sex schooling in Nigeria benefits female, but not male, math students. More research is needed to find out why — and why adolescent females in Nigeria do as well as adolescent males on math achievement tests (unlike their American counterparts).

This study of Form Three (ninth-grade) students in Nigeria indicates that single-sex schools improve girls' achievement in mathematics and engender less stereotypic ideas about mathematics, even after extensive statistical adjustments for family background and school characteristics. But adolescent Nigerian males experience lower achievement and hold a more stereotypic view of mathematics under single-sex schooling, after similar statistical controls.

Many studies of the effects of single-sex education have shown that girls benefit more than boys, but only two studies in developing countries (this one and a study in Thailand) have found that boys' schools produce negative experiences.

Therefore, it should not be concluded from this study that single-sex schooling is more beneficial to students than coeducation; instead, it seems particularly effective for females.

Why are there different responses? In part, differences between the types of students attending single-sex and coeducational schools may be responsible. Girls attending single-sex schools were more likely to have advantaged backgrounds, with more professionally employed fathers and more positive attitudes. They were younger and thus more likely to have progressed through school with few interruptions or repetitions. The girls in this sample (1,012 Form Three students in 40 government-owned schools, including four girls' schools and 16 boys' schools) also represented a very select group of students, since female secondary school attendance was very low in Nigeria in 1983 when the data were gathered. Similar advantages for boys in boys' schools were not observed.

Girls' schools also differed from coeducational and boys' schools in several important ways. The schools were smaller, operated more days per year, had a lower student-teacher ratio, and had more female teachers as role models. It is also possible that the girls' schools were boarding schools.

While these differences between students and schools were found to contribute to differences in student achievement, a statistically significant residual effect for single-sex schools remained after adjustments were made, suggesting that other organizational or student background factors may account for the observed differences in effects.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, S6-001, extension 33640.

207. Occupational Training Among Peruvian Men: Does It Make a Difference?

Ana-Maria Arriagada

Postschool training offers significant benefits for private sector wage employees. Job-based and postsecondary training increase wages by 10 and 20 percent, respectively. But workers with limited formal schooling are unlikely to get job training, revealing that training and formal education are complementary investments in Peru.

Data on job training offered to urban males in Peru since the 1960s support these findings:

The heaviest enrollment is in job-based training programs — on-the-job or off-the-job programs offered by public sector institutions. The second heaviest enrollment — contrary to common expectations — is in "academes," the prototypical proprietary (for-profit) training organizations.

The probability of receiving training is largely determined by educational attainment. In general, workers with less-than-secondary education — more than half of Peru's urban male labor force — do not receive job skills from institutional training programs. Only workers who attain secondary schooling or higher are likely to get job training. So workers with limited schooling also face limited training opportunities.

Training increases salaried workers' wage rates. Job-based training increases wage rates more than 10 percent; training from postsecondary programs, 20 percent; and training from "academes" seems to have no impact on wage rates. Postschool training appears not to affect the earnings or profits of self-employed workers, after controlling for such factors as enterprise characteristics, formal schooling, and the probability of having received training in school.

[This report is the first evaluation of the patterns of participation in, and outcomes of, the postschool job training that began in Peru in the 1960s. Conclusions are based on analysis of data on a sample of 1,259 wage workers in the private sector and 925 self-employed nonfarm workers — all urban men between the ages of 15 and 65 — drawn from the Peruvian Living Standards Survey. The study results suggest that investments in training offer significant benefits in salaried employment in the private sector, but because training costs were unavailable, the study is only a partial evaluation.]

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

208. Effective Primary Level Science Teaching in the Philippines

Marlaine E. Lockheed, Josefina Fonacier, and Leonard J. Bianchi

Frequent group work, frequent testing, and laboratory teaching improved the achievement of fifth-grade science students in the Philippines. But what influenced a teacher's decision to adopt these practices?

Early studies of educational achievement in developing countries emphasized the effects of material inputs (such as textbooks) over teaching practices and classroom organization. Lockheed, Fonacier, and Bianchi examined how five teaching practices affected the achievements of fifth-grade students in the Philippines — and what affected teachers' decisions to use effective teaching practices.

With school, teacher, and classroom characteristics held constant, achievement was higher for students whose teachers used three teaching practices that show promise for applications in developing countries because they are effective, low-cost, or cost-effective:

- Frequent tests and quizzes.
- Small group instruction, including peer tutoring.
- Teaching through laboratory work, particularly for science.

Group work and testing were twice as effective as laboratory work. Students whose teachers used group work in science scored 40 percent of a standard deviation higher than students whose teachers did not. Frequent testing raised achievement 25 percent of a standard deviation. And laboratory use raised it 15 percent.

Teacher's decisions about whether to test students frequently were unrelated to their prior education or experience. Group work was used more often by younger teachers, suggesting that recent teacher training may have emphasized group work to offset the difficulties of larger classrooms. Teachers who used laboratories also read more about teaching and reported more frequent participation in in-service training. But in general teachers' decisions about teaching practices were unrelated to their prior education or experience — suggesting that school-level management

may be more important in encouraging effective teaching than preservice education and training.

[Using two-stage least squares regression techniques, the authors analyzed data from 419 classrooms that participated in the IEA International Science Study.]

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

209. Can the Industrial Countries Return to Rapid Growth?

A Seminar Sponsored by
the International Economics Department

Most participants in this lively discussion agreed that we are not likely to return to growth rates well over 2.5 percent in the medium run — unless some policy yet to be defined emerges — and that this slowdown will particularly hurt developing countries. There was a consensus that something must be done to stabilize exchange rates.

In January 1988 the International Economic Analysis and Prospects Division of the International Economics Department held a one-day round table seminar on the prospects for economic growth in the industrial countries in the 1990s. Following are highlights from the discussion:

Andrea Boltho: Even if, in an ideal world, Japanese savings ought to be exported to Latin America, we are not in that ideal world: we are in the presence of major imbalances, whatever intertemporal shifting might lead one to expect. Is it, therefore, inevitable that the next few years (1989-91) will see a recession? And if we see a recession, will it be coupled with inflation — or will we at least be able to avoid one or the other of these two possibilities?

What would bring us to a higher growth rate? The only thing that the Fund has to recommend is policies of deregulation. Frankly, I am far from convinced. For one thing, the 1950s and the 1960s were almost certainly a period in which regulations increased, in which the Welfare State became more "oppressive," in which labor legislation got more binding. Yet our growth went on and on and on, apparently unperturbed ... it doesn't look as if these micro distortions were quite as important as people tried to make them out to be. [On the other hand, one kind of deregulation] has had extremely serious negative consequences for our growth performance: deregulated [foreign] exchange markets.

Flemming Larsen: Expansionary fiscal policies perhaps were pursued a bit too long [after the war] with the result that wage expectations became unrealistic relative to underlying productivity growth, with the result that wage earners and unions in many countries essentially forgot that they also had a kind of responsibility for what happened to real wages and thereby demand for labor.

Jean Baneth: Growth is like a bicycle. If it slows down too much, it may fall. And I personally believe that because of both political and social restraints, as you fall below or try to stay at 2.5 percent, the long-term outcome may in fact be much slower growth.

Leslie Lipschitz: One of the problems might well be that Americans understand very little of the problems of Europe and are not persuasive in talking about Europe, and I suspect vice versa — that sometime when one listens to this debate, it sounds like a dialogue of the deaf.

Steve Marris: None of our models take into account the interreaction between price elasticities and income elasticities. You know, what every other country has learned is that if you combine an undervalued exchange rate with a recession, miracles happen. They happened in Brazil; they happened in Mexico; they used to happen from time to time in France. There is every likelihood that they could happen in the United States.

I suppose what we need is a crisis serious enough [that we can] lock the governments into a better managed exchange rate system, but not so serious that the whole thing breaks down and there is nothing left to manage.

This paper is a product of the International Economic Analysis and Prospects Division, International Economics Department. Please contact Jackie Queen, room S7-212, extension 33740 (55 pages).

210. Notes on Cash-Flow Taxation

Roger H. Gordon

Cash-flow taxes have been advocated as efficient, equitable, and easy to administer. In principle, at least, they do not distort savings and investment decisions. But what are the practical implications of the many versions of cash-flow taxation?

Under cash-flow taxation, a country can tax the cash flow of domestic producers, domestic residents, or domestic citizens. The implications are different in each case.

The paper examines the positive and normative effects of various versions of a cash-flow tax, focusing on the effects of such a tax in a small open economy.

A country must decide, for example, whether investment in each type of asset will be taxed based on its cash flow or will instead be entirely tax exempt. The economic implications differ, depending on whether the government decides or the choice may be left to each taxpayer.

In addition, cash flow rates may vary:

- As a result of a progressive rate schedule.
- According to the type of taxpayer.
- Over time, depending on economic conditions.

Substantial problems can result from each type of variation.

Finally, inequities can arise during the transition to a cash-flow tax. Different inequities arise depending on what tax precedes the cash-flow tax. And a partial introduction of cash-flow taxation may open important arbitrage opportunities.

This paper is a product of the Public Economics Division, Country Economics Department. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-061, extension 37699 (22 pages).

211. Coffee Pricing Policies in the Dominican Republic

Panos Varangis

Export taxes must be substantially reduced to encourage farmers to rehabili-

tate the Dominican Republic's coffee industry.

Coffee is an important crop for the Dominican Republic, accounting on average for 11 percent of total exports by value during 1982-84. But for the last 10 years or so, coffee yields have been low, and production and exports stagnant. Yields are poor because the trees are very old, poorly cared for, and planted too far apart.

If current policies for coffee continue, production and exports are likely to decline even further. The Dominican Republic could have difficulty filling its export quota under the International Coffee Agreement (ICA). It could lose its export quota share and therefore its share of the high-priced markets.

Varangis sees the high tax on coffee exports as the main disincentive to growth in coffee production. With a small econometric model of the Dominican coffee sector, he simulated the impact of export tax reductions under different assumptions about the operation of the ICA export quota system.

The model's results suggest that production will decline if present pricing policies continue — and that the decline will be much steeper if the ICA export quota agreement is not renewed in September 1989.

Tax cuts seem to be crucial if the export quota system is not renewed. Without a quota and without tax cuts, real producer prices could fall significantly — 15 to 20 percent over the following three years. Under those circumstances, coffee farmers would probably lose interest in growing coffee.

The model suggests that if the ICA is continued, an export-tax cut of 52 percent would produce the desired production level (to meet projected quota and nonquota export demand) by 2000. If the ICA is discontinued, the export tax must be eliminated to achieve the same production level.

This paper is a product of the International Commodity Markets Division, International Economics Department. Please contact Dawn Gustafson, room S7-044, extension 33714 (41 pages with charts and tables).

212. How Private Investment Reacts to Changing Macroeconomic Conditions: The Case of Chile in the 1980s

Andrés Solimano

Private investment in Chile has been rather modest and very volatile in the last decade. An empirical model of investment determination is set up to investigate the role of sharp cycles in economic activity, misalignments and realignments in key relative prices (including the real interest rate), changes in policy rules and external conditions in explaining the behavior of private investment in Chile.

A model of joint determination of private investment spending, aggregate investment profitability, and the level of GDP is estimated and simulated for Chile. Some of the more important issues addressed are:

- *Sharp cycles in economic activity — the boom of 1980-81, the steep recession of 1982-83, and the recovery afterward.* Private investment fell sharply in 1982-83 and it took around four years to recover. Those cycles increased the volatility of aggregate demand discouraging investment.
- *The sharp swings in the real exchange rate and real interest rates in the last decade.* In particular, real interest rates were abnormally high in the late 1970s and early 1980s, returning to more moderate levels afterwards. In turn, the real exchange rate appreciated significantly in the early 1980s and then, after major devaluations, depreciated substantially. The implied increase in the variance of profitability, again, has an adverse effect on investment.
- *High real interest rates.* Counterfactual simulations show that high real interest rates were a binding factor restraining private investment mainly in the late 1970s and also in 1981-82.
- *Real appreciation and depreciation.* The relationship between the level of the real exchange rate and the level and profitability of aggregate investment turns out to be complex. In fact, currency overvaluation increased the profitability of investment through a reduction in the reposition price of capital — giving rise to an outburst of private investment that is, in general, unsustainable and specialized in the "wrong" sectors. The boom of 1980-81 is an example of that. The currency devaluations of 1982-84 may have depressed investment's profitability in the aggregate as the increase in the reposition price of capital tends to dominate — in the short run — the increase in the market value of capital installed in traded goods activities following a real depreciation. These latter effects seem to have been more important in subsequent stages of the adjustment process, once export and import-competing sectors start to respond more forcefully to the incentives provided by the exchange rate policy.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Emily Khine, room N11-055, extension 37462 (41 pages with figures).

213. Conditionality and Debt Relief

Stijn Claessens and Ishac Diwan

To restore growth in highly indebted countries, debt reduction alone is not as efficient as simultaneously providing liquidity, debt reduction, and possibly conditionality. Indeed, many countries might not need debt reduction if liquidity and conditionality were available.

Six years into the debt crisis, questions about the relevance of policy measures to alleviate the crisis still abound. Conditionality by international financial institutions and rescheduling by commercial creditors have been dismissed in favor of debt reduction as strategies for restoring the creditworthiness of heavily indebted countries.

Claessens and Diwan argue that the combination of conditionality and new private money — if properly interpreted and correctly implemented — should not be dismissed too lightly. They contend that liquidity (the availability of current resources) in the debtor country is probably as important an incentive for a country to invest and adjust as having a small enough debt stock outstanding.

Debt reduction alone, they argue, is not as efficient as simultaneously providing liquidity and debt reduction. Indeed, many countries might not need debt reduction if liquidity were available.

Conditionality produces efficiency gains by reducing creditor concerns that the debtor countries will "cheat" on their promises to adjust and invest. This reduced concern induces creditors to provide new loans and reduce the debtor's liquidity constraints. Increased investment produces efficiency gains that can then be distributed between debtors and creditors, reducing the need for debt relief.

The combination of new money and conditionality will work if the debt stock is small enough and enough new money is available.

This paper, prepared for the conference "Dealing with the Debt Crisis," is a product of the Debt and International Finance Division, International Economics Department. Please contact Sheilah King-Watson, room S8-025, extension 31047 (46 pages with charts).

214. Adjustment and the Labor Market

Peter R. Fallon and Luis A. Riveros

How much have adjustment programs affected the functioning of the labor market — and how much does the labor market hinder adjustment? Fallon and Riveros report on recent experience in 23 countries.

How has the labor market responded to changes in macroeconomic conditions and related government policies? (In particular, is the labor market a significant obstacle to successful adjustment policies?) And to what extent has government intervention affected the microeconomic functioning of the labor market?

Fallon and Riveros reviewed the recent experience of 23 developing countries to answer those two questions. Their conclusions:

Geographical immobility of unskilled or clerical workers does not seem to hinder adjustment. Labor is increasingly deployed in nontradables and import-competing sectors, however, and problems of mobility between tradables and nontradables are reported. In addition, shortages of trained manpower are common in most countries. Whether segmentation of the urban labor market causes problems is an issue that deserves further study.

There is little evidence of wage resistance where wage indexation is not institutionalized, but this subject bears further investigation. Wage differences have tended to widen in favor of expanding sectors, which suggests less than perfect labor mobility.

Traditional methods of wage support — such as minimum wage policies and nonwage cost regulations (including fringe benefits, medical insurance, and social security contributions) — have generally become less important in the last two decades. Where effective minimum wage policies exist, they have the expected distortionary effects.

Wage differences between the public and private sectors — particularly in sub-Saharan Africa — have continued to widen, and the efficiency of the public sector has declined as a result.

Job security regulations may be an obstacle to structural adjustment programs insofar as they hinder the release of labor from contracting sectors. Regulations of this kind could become more commonplace as governments seek to offset the job-reducing effects of recession, but no clear international trend in this direction has been discerned.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 39059 (53 pages with tables).

215. Adjustment and Income Distribution: A Counterfactual Analysis

François Bourguignon, William H. Branson, and Jaime de Melo

If contractionary adjustment packages can survive three years of sharply deteriorating social indicators, income distribution will probably improve — but people below the poverty line will probably suffer irreparable damage in health, nutrition, and education.

Bourguignon, Branson, and de Melo carried out model simulations to quantify the effects of different stabilization packages on the distribution of income and wealth. They did so for a representative economy subject to the interest rate and terms-of-trade shocks of the early 1980s.

Their simulations suggest that a sharply contractionary stabilization package has a major adverse impact on the distribution of income. The resulting shifts in distribution are likely to make the package less sustainable, even though income distribution becomes more equal when normal policies are resumed.

Contrast this with the model results for the targeted expenditure cuts advocated by critics of contractionary packages. These result in a more equal distribution of income during adjustment, but the distributional improvements of the targeted package are mostly reversed in the post-adjustment period.

The authors' simulations support the view that stabilization packages that do not have specific components targeted to the poor will redistribute income in a way that, although transitory, is likely to permanently harm those below the poverty line — in terms of things like nutrition, health, and education. The sharp redistributive effects of stabilization packages that omit specific targeted policies to alleviate poverty are also likely to endanger the sustainability of the adjustment package.

This paper is a product of the Trade Policy Division, Country Economics Department. Please contact Maria Ameal, room N10-035, extension 37947.

216. Price and Quality Effects of VERs — Revisited: A Case Study of Korean Footwear Exports

Jaime de Melo and L. Alan Winters

Voluntary export restraints on exports of Korean footwear resulted in significantly higher prices to the restricted markets and a mild downgrading — rather than the expected upgrading — in quality.

The application of index numbers to disaggregated Korean footwear exports during 1974-85 suggests that binding voluntary export restraints (VERs) led to significant price increases but not to the upgrading of quality predicted in earlier theoretical analyses.

Unlike most previous empirical studies of VERs, the results de Melo and Winters present in this paper were derived from exporters' rather than importers' data. Thus they provide a more direct test of the reactions of exporting

countries subject to VERs.

Drawing their comparisons from multilateral indices (adjusted for changes in product and country mix), the authors found that the price of Korean footwear exports to the United States (and to a lesser extent to the United Kingdom) rose significantly in the years when VERs were binding (when quotas were filled).

VERs were associated less with quality upgrading and if anything — for exporters whose objective was foreign exchange earnings rather than profit maximization — were possibly associated with quality downgrading.

The pattern of quality changes across markets seems not to have varied significantly during the VER period, so adjustment costs may have been enough to prevent a change in product mix toward restricted markets.

The empirical results, the authors conclude, confirm that as a result of VER-type restrictions on shoes, rents accrue to the exporting country (and some rents to the importers, if importing is not a competitive activity) — but shoes do not show the improved quality that automobiles do under similar restrictions.

This paper is a product of the Trade Policy Division, Country Economics Department. Please contact Maria Ameal, room N8-073, extension 37947 (36 pages with tables).

217. Public Sector Management Issues in Structural Adjustment Lending

Barbara Nunberg

Public sector management components or structural adjustment loans (SALS) progressed unevenly, and the outcomes varied with different political, administrative, and economic conditions. Change was often incremental and sometimes unsustainable. Reforms linked to specific, actionable steps were more successfully implemented.

This paper reviews the Bank's experience in implementing public sector management reforms through structural adjustment lending. The study focuses on those institutional aspects of adjustment that deal specifically with "macromanagement" issues related to improvements in the management performance of core central government institutions and to systemic changes in public administrations. The paper reaches the following broad conclusions:

• Public sector management components of SALs progressed unevenly and outcomes varied with diverse political, administrative and economic conditions. Accordingly, no uniform solutions to institutional problems were prescribed by SALs. Depending on circumstances, SALs sometimes fostered the creation of new institutions (often at the cost of promoting institutional proliferation) or the reorganization or even the elimination of old ones. Institutional change was often incremental and sometimes unsustainable when Bank support was withdrawn.

• Public sector management reforms for which routinized methodologies and systems were introduced and those that could be linked to actionable steps were more likely to be sustained over time.

• Short time horizons of SALs posed severe constraints on the effective implementation of public sector management reforms. These constraints must be weighed against the catalytic benefits SALs offer to spur action on institutional measures, however.

• Public management reforms through SALs are more successful when supported by specific technical assistance projects. Otherwise, reforms may be one-shot events or may be subject to slippage or reversal. This is recommended despite the poor performance record of much of the technical assistance provided for institutional reforms in conjunction with SALs.

• The haste of SAL schedules and the lack of dynamism and focus of traditional technical assistance argues for the creation of a new lending instrument for public sector management reform which would adopt a longer time horizon to ensure adequate implementation, but would contain conditionality specifically focused on institutional reforms to ensure action.

• Preparatory country economic and sector work is crucial to successful public sector management reforms undertaken through SALs. Such analysis should become a routine task in the design of any institutional reform program in the context of structural adjustment lending.

• Monitoring and supervision of institutional components of SALs needs to be systematized and the quality of documentation improved. Performance indicators need to be developed to measure and/or evaluate progress.

This paper is a product of the Public Sector Management and Private Sector Development Division, Country Economics Department. Please contact Betsy Mitchell, room N9-065, extension 37644 (36 pages with tables).

218. Public Finance, Trade, and Development: The Chilean Experience

Vittorio Corbo

Restructuring the public sector and eradicating chronic public sector deficits helped Chile lay the basis for microeconomic reforms that removed distortions and put Chile in a sustainable growth path. But macroeconomic policy errors of the late 1970s delayed the growth effects of these reforms.

What role did public finance and trade policies play in Chile's successful adjustment experience over the past 15 years? Vittorio Corbo draws these conclusions:

• The reforms in its public finances helped Chile to reduce both the large public deficit and the distortionary effects of taxes and revenues, in this way creating basic preconditions for sustainable growth.. Reducing the deficit required strong actions to decrease expenditures and increase revenues. Introducing a value-added tax and adjusting the tariffs of public utilities to reflect opportunity costs helped reduce the deficit. Structural reform of the tax system helped reduce the distortionary effects of the tax regime.

• Eliminating the large public deficit inherited from Allende's years was a major contribution to the slow but steady reduction of inflation. The reduction of inflation in turn made the liberalization of trade sustainable and supported the other microeconomic refrorms that helped Chile to restore growth.

• The recovery of the Chilean economy suffered a setback in the late 1970s. This was a consequence of the second stabilization attempt rather than of the structural reforms underway.

• The second stabilization attempt, undertaken in 1978, when inflation was

down to 35 percent a year—similar to the average for the 1960s—worked at cross-purposes with the export-led growth being generated by trade liberalization.

• Indeed, using the exchange rate to stabilize a widely indebted economy not only created a short-term real appreciation of the peso, but encouraged external borrowing at a time when restrictions on capital inflows were being lifted and international capital markets were very liquid.

• The jump in expenditures that followed the fall in interest rates and increase in capital inflow caused the peso to appreciate further. The result was an unsustainable current account deficit that ran close to 25 percent of GDP in the first half of 1981.

• The appreciation squeezed tradables just when exporters were making inroads into world markets and when firms in the import-competing sector had completed a major adjustment to trade liberalization. Not surprisingly, firms in the tradable sectors suffered a squeeze on profits.

• Once the macroeconomic mistakes of the late 1970s and early 1980s were corrected, Chile recovered its growth and reduced inflation. This was achieved despite unfavorable terms of trade and a drastic reduction in the net transfer of resources from the rest of the world. Nontraditional exports, in particular, contributed greatly to the dramatic recovery—assisted by macroeconomic policies that supported real devaluation, kept inflation under control, and reduced the unemployment rate to below 6 percent.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Aludia Oropesa, room N11-035, extension 39075.

219. Rural Credit in Developing Countries

Avishay Braverman and J. Luis Guasch

The record on subsidized credit to farmers is dismal. It shows a significant failure either to achieve an increase of agricultural output cost-effectively or to improve rural income distribution and alleviate poverty. Many of the financial institutions have proven to be inept and to lack accountability.

Common features in success stories are tougher stands on default; strict auditing and accounting procedures and financial control; and some form of joint responsibility or liability by small groups of farmers, whereby default by one member cancels future loans to the whole group.

Subsidized formal credit to the agricultural sector has been advocated as more efficient, equitable, and easier to implement than, say, land reform. But the record on subsidized credit to farmers is dismal.

Until recently, it was argued that imposing low ceilings on interest rates and allocating massive amounts of credit to rural financial markets would yield rural development and improve income distribution. But 20 years of subsidized credit have only made matters worse.

Low interest ceilings effectively distort the real cost of investment and transfer income to large landowners (not the poor); 5 percent of borrowers receive 80 percent of the credit. The default rate is high — particularly among large landowners — everywhere but in East Asia, partially because farmers see the loans as grants or welfare and enforcement is lax. And creditors often exchange loans for political favors.

Agricultural credit is intrinsically difficult, because of the seasonal nature of the activity, the peak-load demands, the convention of repayment once in harvest season, and the fact that bad luck can strike many borrowers at once. Common features in the success stories recounted by Braverman and Guasch are these:

• Withholding of new loans until old loans are repaid.

• Strict auditing and accounting procedures and forceful enforcement of penalties.

• Some form of joint responsibility or liability by small groups of farmers, whereby default by one member cancels future loans to the whole group.

Policy reform should take account the institutional structure of the rural economy — including the difficulty of assessing risk in rural borrowers or knowing what they do with borrowed funds — and recognition of the importance of existing informal (including sharecropper) credit markets.

Getting credit to small-scale farmers has been difficult because of higher transaction costs per dollar lent for small loans; lack of collateral and the belief that small agents are bigger risks than large agents; and patronage and arbitrary decisions in favor of larger-scale farmers.

Organized credit groups have arisen to overcome these problems, but their failure rate has been high. The key ingredients for their success are a coherent system of incentives consistent with the informational structure, and strong enforcement procedures. Some form of joint liability structure is desirable for group lending. Particular care needs to be taken in the design of the group, regarding size and incentives.

This paper is a product of the Agricultural Policies Division, Agriculture and Rural Development Department. Please contact Cicely Spooner, room N8-039, extension 30464 (39 pages).

220. Building Capability for Policy Analysis

Samuel Paul, David Steedman, and Francis X. Sutton

Demand for developing indigenous capability for policy analysis has grown in Asia and Latin America but remains weak and unstable in Africa. Strategies for developing such capability depend on strengths and attitudes of government and private sectors.

After reviewing donor experience in building capability for policy analysis, Paul, Steedman, and Sutton conclude that:

• Capability and demand for policy research and advice continue to be weak and unstable in Africa, where there are few well-trained macroeconomists and where governments have a problem retaining competent analysts.

• Capability and demand for policy analysis have grown in Asia and Latin America. In some countries, a few economists and related professionals have significantly improved economic policy formulation.

• Autonomous (arm's length) centers for policy analysis are increasingly influ-

ential in building policy capability in Asia and Latin America, but less so in sub-Saharan Africa. Foreign assistance has provided critical support for these centers.

Success in building policy capability will depend upon the extent to which:

- Donors and recipient governments undertake coordinated, long-term efforts to build that capability.
- Suitable incentives are provided for professionals, particularly in semi-autonomous centers.
- Steps are taken to stimulate government demand for policy analysis.
- Donors support a few rather than too many institutions.

Strategies for developing indigenous capabilities for policy analysis will vary from country to country. In countries where nongovernment clientele and sources of support are limited but government is interested, the initial focus should be on strengthening government capability. Countries where there is demand for policy analysis in both the government and private sector may be ripe for arm's length centers for policy analysis. If such centers are not appropriate, private sector associations could help set up policy analysis units. In countries where the private sector is weak, academic institutions with close links to government may help create some local capability.

This paper is a product of the Public Sector Management and Private Sector Development Division, Country Economics Department. Please contact Ernestina Madrona, room N9-061, extension 37496 (149 pages).

221. How Does Uncertainty About the Real Exchange Rate Affect Exports?

Ricardo J. Caballero and Vittorio Corbo

Increased uncertainty about the real exchange rate depresses exports if firms are sufficiently risk averse. If firms with a fixed capital stock are risk-neutral, such uncertainty increases exports.

Under what conditions does increased uncertainty about the real exchange rate depress exports?

For any given level of capital stock, a firm's marginal return increases as uncertainty rises. In terms of the real exchange rate, the marginal profitability of capital is represented by a convex curve. The implication: increased uncertainty raises exports. It turns out that firms that are risk-neutral are better off increasing investments because the cost of being caught with too little capital is greater than the cost of being caught with too much.

If one allows for risk aversion, however — and if aggregate activity is positively correlated with innovations in the real exchange rate (or terms of trade) — the relationship between exports and an uncertain real exchange rate can be negative. This is true only if the degree of risk aversion is large enough to offset the positive effect from Jensen's inequality and the convex curve of the profit function in terms of prices.

Caballero and Corbo tested the qualitative implications of a simple two-period model on several developing countries. Their results: uncertainty about the real exchange rate showed a clear, strongly negative effect on export performance.

Point estimates indicate that increases as small as five percentage points in the annual standard deviation of the real exchange rate can shrink the export sector by 2.5 percent (Colombia) to 30 percent (Thailand and Turkey). The effects are substantially greater in the long run.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Aludia Oropesa, room N11-035, extension 39075 (24 pages with tables).

222. The Labor Market and Economic Stabilization in Zambia

Christopher Colclough

Labor markets are assumed, in orthodox stabilization programs, to be flexible. The experience in Zambia proved this assumption unfounded.

This paper examines trends in the Zambian labor market over the period since independence. It focuses particularly on two phenomena — skill shortages and wage rigidities — which have made it more difficult for the economy to recover from the fall in the price of its main export commodity, copper, in the mid-1970s. Real wages did fall somewhat over the following decade, but insufficiently so to promote economic diversification and recovery. The rigidities also help to explain the failure of more recent stabilization efforts, including the IMF program of 1985-87.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 39059 (40 pages with tables).

223. Overvalued and Undervalued Exchange Rates in an Equilibrium Optimizing Model

Jose Saul Lizondo

For some problems it helps to think of overvalued or undervalued exchange rates as the result of unsustainable macroeconomic policies — such as undertaxation or overspending in the public sector — rather than the result of markets failing to clear or economic agents failing to behave in an optimizing manner.

Intertemporal equilibrium optimizing models have recently become the standard framework for analyzing such macroeconomic issues as terms of trade, fiscal or trade policy, international transfers, supply shocks, and technological progress.

They have rarely been used to discuss overvalued and undervalued exchange rates — probably partly because an equilibrium model is not usually considered appropriate for examining a "disequilibrium" situation.

For some kinds of problems, however, it may be more reasonable to think of overvalued or undervalued exchange rates as the result of unsustainable macroeconomic policies rather than the result of markets failing to clear or economic agents failing to behave in an optimizing manner. It may be useful to examine the issue of undervalued or overvalued exchange rates in a framework that forces us explicitly to take into account the economic agents' maximizing

behavior and budget constraints over time.

In the model Lizondo presents, sustainable fiscal policies produce an equilibrium real exchange rates, and unsustainable policies produce misaligned exchange rates. When the exchange rate is overvalued, maintaining present fiscal policies means the present value of lifetime public sector spending would be higher than the present value of taxes.

Misaligned exchange rates imply both intertemporal and intersectoral shifts in the economy's pattern of expenditure. An overvalued exchange rate, for example, implies that an increase in present expenditures must be balanced by a reduction in future expenditures — reflected in a worsening of the current account.

Whether the expenditure shifts from the public to the private sector or the reverse depends on how the misalignment was brought about and is to be compensated for. If it was brought about by increased public sector spending that is to be compensated for by higher future taxes, the shift will be from the private to the public sector. If it was brought about by lower taxes that are to be compensated by lower future public sector spending, the shift will be from the public to the private sector.

For Lizondo's model to be used to obtain welfare conclusions about the use of overvalued or undervalued exchange rates, it would be necessary to assign some social value to public sector expenditure. Other fruitful modifications of the model would be to incorporate investment activity as well as money —the latter of which would allow for discussion of the effects of monetary policy, exchange rate arrangements, and nominal exchange rate policy.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 39059 (21 pages).

224. The Economics of the Government Budget Constraint

Stanley Fischer

Large budget deficits pose real threats to macroeconomic stability and therefore to growth and development. Large deficits will, perhaps after some time, lead to inflation, exchange crises, external debt crises, and high real interest rates.

Excessive budget deficits can lead to inflation, exchange crises, external debt crises, and high real interest rates — with implications for the real exchange rate, the trade account, and investment. But the links are not automatic, for there are choices in the sources of financing — and lags in the effects of money printing and borrowing on inflation and interest rates.

Nor are moderate budget deficits to be avoided at all costs. Small deficits can be financed without creating excessive inflation, exchange crises, or an excess buildup of debt. If the real interest rate exceeds the growth rate of GNP, no primary deficit larger than the maximum amount of seignorage revenue (the revenue from printing money) the government can obtain is sustainable. Governments cannot use seignorage permanently to finance primary deficits over 2.5 percent of GNP without expecting inflation to accelerate — and even seignorage of 2.5 percent of GNP would be sustainable only in a rapidly growing economy.

Whether any particular path of fiscal policy is sustainable has to be checked through projections of the debt-to-GNP ratio. A given deficit is more likely to be sustainable the higher the growth rate of output.

Of course, the fact that a fiscal policy is sustainable does not mean that it is optimal. A fiscal deficit crowds out private investment — and it might well be desirable to reduce the debt-to-GNP ratio to crowd private investment in.

Similarly, it is not optimal to collect the maximum possible amount of revenue from seignorage, but rather a smaller amount corresponding to a lower inflation rate.

Theory and evidence both warn that large budget deficits pose real threats to macroeconomic stability and therefore to economic growth and development.

This paper is a product of the Office of the Vice President, Development Economics. Please contact Stanley Fischer, room S9-035, extension 33774.

225. Targeting Assistance to the Poor Using Household Survey Data

Paul Glewwe and Oussama Kanaan

Household survey data from Côte d'Ivoire are used to predict incomes based on observable household characteristics, such as region of residence and characteristics of the household dwelling. These predictions are then used to allocate money transfers to alleviate poverty. Whether one should distribute poverty-alleviating transfers using this method remains to be seen.

Reducing poverty is a major objective of economic policies in both developed and developing countries. It is important that limited government resources be channeled to the poor, but it is not always easy to identify the poor directly.

Which households should be given transfers (such as money, food stamps, vouchers, and rations) when reliable information on incomes is difficult to obtain? How much money (stamps, vouchers, rations) should be given? The answers to these two questions depend on the information available.

Glewwe and Kanaan present a simple method for targeting when income is not observable but other characteristics that are correlated with income can be observed. Using simple regression techniques on comprehensive household survey data taken from Côte d'Ivoire, they predict incomes based on observable household characteristics and distribute transfers on the basis of those predictions. It appears that significant reductions in poverty can be achieved using this method.

Some of the variables that most reliably predicted income level in Côte d'Ivoire were: per capita floor area; whether the household was headed by a member of the Voltaic ethnic group (which is one of the poorest groups); the level of educational attainment of the head of household; whether the household owned a car, a bike, or a refrigerator.

Several problems with this approach are discussed. For example, the cost of gathering information may at times outweigh the benefits. Also, basing transfers on a policy that favors one group over another might lead to public opposition.

This paper is a product of the Welfare and Human Resources Division, Population and Human Resources Department. Please contact Brenda Rosa, room S9-137, extension 33751 (48 pages with tables).

226. Inflation and the Costs of Stabilization: Country Experiences, Conceptual Issues, and Policy Lessons

Andrés Solimano

The costs of hyperinflation are almost unbearable to any economic system. Nevertheless, stopping hyperinflation seems to be faster and less costly than stabilizing chronic inflation. The history of stabilization shows that fiscal restraint and adequate external resources are key elements for successful stabilization.

A key issue in anti-inflationary policymaking is how to bring inflation down permanently and at a low cost. Solimano reviewed several anti-inflationary programs to determine the role played by fiscal reform, the availability of foreign resources, stabilization of the exchange rate, and the distributive conflict in the success or failure of those programs.

Focusing on the costs of stabilization and the lessons to be drawn from each case, Solimano examined three types of anti-inflationary experience: stabilization of hyperinflation (in Germany, 1923; Austria, 1922; and Bolivia, 1984-85); orthodox stabilization programs in the Southern Cone in the mid-1970s and early 1980s; and heterodox stabilization programs in Argentina, 1985-87, and Brazil, 1986-87. He concluded that:

Stabilization of hyperinflation entails costs—in terms of employment and real wages—but they seem to be lower than the costs of stabilizing chronic-intermediate inflation, mainly through restrictive demand policies.

The orthodox experiences in the Southern Cone in the mid-1970s show that stabilization programs that focus only on restrictive monetary and fiscal policy can be slow in producing anti-inflationary results and may cost considerably in terms of activity levels and real wages. Orthodox programs based on exchange rate management (tried in the late seventies and early eighties) reduced inflation more rapidly than traditional programs, but led to overvalued real exchange rates and the accumulation of foreign debt. Correcting these disequilibria arising in the course of stabilization proved that those exchange rate-based stabilization programs did not eliminate but only delayed the costs of stabilization.

Heterodox stabilization programs significantly reduced inflation in the short run, without recession and even with (moderate) growth—but in Argentina and Brazil these gains were temporary, and inflation accelerated dramatically in 1987, 1988, and 1989. These results are explained by different factors like the difficulties in controlling aggregate demand and the fiscal deficit, the behavior of relative prices during stabilization, the net transfer abroad, the inertia of the economy's contract structure, and the influence of the distributive conflict and the political cycle. Israel has succeeded with a heterodox program, stabilizing inflation more permanently by undertaking fiscal adjustment and benefiting from a net resource transfer *from* abroad.

The intertemporal distribution of the costs of stabilization that tilt toward the end of the program of stabilization is a feature valid both in programs that rely on one nominal anchor and in heterodox plans that use several nominal anchors to stabilize.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Emily Khine, room N11-055, extension 37462 (44 pages with tables).

227. Institutional Reforms in Sector Adjustment Operations

Samuel Paul

Institutional reforms stand a greater chance of succeeding when there is adequate institutional diagnosis and design, including assessment of the interest groups affected and the ability of top leaders to mobilize support for reform. A good case can be made for bringing the key players together in a process approach to diagnosis, so that diagnosis becomes an early stage of consensus building among those who will be affected by the reforms.

Institutional reforms in sector adjustment operations (SECALs) are designed to deal with three types of issues: organizational restructuring and strengthening; regulatory and procedural reforms; and the building of sector policy and planning capability. Paul learned in his review of 55 of the 65 SECALs approved during fiscal 1983-87 that:

Of all the institutional reforms, organizational restructurings, including divestiture, were the most difficult to implement. In some cases, implementation was delayed by the coordination problems of the multiplicity of agencies involved, and in others, the impact of institutional reforms was limited by the lack of follow-up actions essential to their success.

The importance of careful diagnosis of the sectoral institutional framework cannot be overemphasized. The problem is less severe in such sectors as agriculture, where past project and sector work has led to a better understanding of sector institutions. Attention to institutional diagnosis and design is especially important in SECALs because of their quick disbursing nature and the limited time available for redesign. There is greater flexibility for redesign for a series of SECALs.

Most institutional diagnoses done for SECALs focus on technical capabilities. There is too little assessment of the interest groups affected and the ability of top leaders to mobilize support for reform and to resist opposition. Joint diagnostic exercises are likely to yield a better mix of technical, organizational, and political analysis and provide a better basis for assessing the feasibility of implementation.

When the issues and causes of problems are unclear, a "process approach" to diagnosis is called for — and a good case can be made for bringing together key players with different perceptions of the problems or in other ways using the diagnostic process for early consensus building or at least an appreciation of the different perceptions involved. It is important to sensitize Bank staff to good designs and processes, and to draw on experts when Bank staff are not experienced in process issues.

Complex institutional reforms should be implemented a stage at a time, in a thoughtful sequence. If a simultaneous attack on different fronts is necessary, a

strategic approach to implementation must be planned — getting the full support of top leaders who alone can influence or control the actors involved and do team-building, and following up with supervision and monitoring for early identification of problems.

SECALs have not given enough attention to building capabilities for policy analysis, a task that calls for staff-intensive supervision and a long-term perspective — which are seldom available in adjustment operations involving many reforms.

This paper is a product of the Public Sector Management and Private Sector Development Division, Country Economics Department. Please contact Ernestina Madrona, room N9-061, extension 37496 (167 pages with tables).

228. Recent Economic Performance of Developing Countries

Robert Lynn and F. Desmond McCarthy

Some (mainly Asian) developing countries prospered in the 1980s. Many (typically in Sub-Saharan Africa) regressed. The highly indebted countries stagnated. Perhaps a new Marshall Plan is needed to replace the tired marginalist approaches that are yielding such poor results.

The GDP growth rate in the developing countries averaged 4.1 percent between 1980 and 1988. Many dynamic countries — chiefly in Asia — did exceedingly well during this period, but many others — typically in Sub-Saharan Africa — regressed. In general, the highly indebted countries have stagnated.

Domestic policies that appear to be critical to successful performance are investment rate, stability of incentives, and real effective exchange rates. Key external factors include buoyancy of the world economy, terms of trade, and a country's ability to adjust its export profile to take advantage of buoyant OECD market opportunities.

Highly indebted countries have generally been unable to achieve the critical investment level because they need to generate an export surplus to service their debt and are unable to provide a climate conducive to increased domestic savings — two problems compounded by political expediency in democratic regimes. Sub-Saharan countries seem to be mired in a poverty trap, with low investment levels and generally inappropriate exports.

If the prospects for the most deprived and highly indebted countries are to be improved, they will need to channel significant real flows into investments. This could be done through a combination of new external debt initiatives and growth-inducing domestic policies. Appropriate domestic policies are essential so that external inflows are not negated by higher consumption levels.

Perhaps it is time to reassess the Marshall Plan that reinvigorated the depleted post-war Europe or the more recent EEC institutional umbrella that provided stability for the economies in Italy, Spain, Greece, and Portugal. The Marshall Plan provided needed resources in a relatively short period, and since the aid did not carry an interest burden the authorities were not preoccupied with financial engineering. Quantum changes of some sort are needed to replace the tired marginalist approaches that are yielding such indifferent results in many developing countries.

This paper is a product of the International Economic Analysis and Prospects Division, International Economics Department. Please contact Mila Divino, room S7-038, extension 33739 (45 pages with charts and tables).

229. The Effect of Demographic Changes on Saving for Life-Cycle Motives in Developing Countries

Steven B. Webb and Heidi S. Zia

Declining fertility and the transition to stable populations is likely to increase aggregate saving rates measurably. Saving for retirement will probably increase but not dominate total saving changes.

If developing countries follow the same paths industrialized countries have followed, saving for retirement will initially become more important as the population growth rate declines.

To calculate the potential importance of life-cycle saving (saving for retirement), Webb and Zia set up a simulation model that translates demographic projections into savings-rate projections. Modeling explicitly the behavior of each cohort of households separates the effects of changing population shares of children and retirees. These shares behave differently and have different effects on saving as the population growth rate changes.

Baseline World Bank population projections assume that by the middle of the twenty-first century, if not sooner, the net reproductive rate of women in every country will decline to 1.0, a level that will eventually lead to a stable population. As the last cohort of those born in the years of high reproductive rates reaches adulthood, the proportion of working-age population rises sharply. Then, as baby boomers retire and die off, it declines toward the steady-state level.

Webb and Zia simulated aggregate rates for life-cycle savings for Brazil, China, Korea, Mexico, Nigeria, Pakistan, and Turkey.

The savings rates increase 5 or 6 percentage points when the last baby boomers enter the work force and begin to save after their children leave home. The effect on life-cycle saving is dramatic; the effect on total savings rates, which are often three or four times as high, is not.

Simulated life-cycle savings rates peak at an absolute 10 percent or less in all cases. The patterns in these projections seem robust with regard to assumptions about productivity growth, interest rates, and age-specific participation in the labor force.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Emily Khine, room N11-055, extension 37462 (27 pages with charts and tables)

230. Unemployment, Migration, and Wages in Turkey, 1962-85

Bent Hansen

Long-term voluntary unemployment of a more fully educated youth population is as much a factor in the long-term upward trend in unemployment in Turkey as involuntary unemployment because of stabilization.

Working with poor, incomplete data on Turkey's labor market, Hansen analyzed the status and development of Turkey's labor market since 1962. He concludes that:

The estimated steady upward trend in unemployment since 1962 (to 12.7 percent in 1985) may be misleading. Cyclical short-term changes have been important, unemployment was probably declining in the early 1970s and again after 1982, and unemployment increased most between 1978 and 1982, with the stabilization program. At the same time, young, educated single people with relatively little work experience and long spells of unemployment dominated the unemployment picture. So long-term unemployment of youth was as much a factor as unemployment because of stabilization.

Rural-urban migration was substantial between 1965 and 1975 but, remarkably enough, was reversed between 1975 and 1980 — probably as a result of the recession accompanying the stabilization policy of 1978. This helps to explain why rural unemployment which was lower than urban unemployment in 1973-74, but has increased much more than urban unemployment since then.

Hansen concludes that, all things considered, the long upward trend in unemployment in Turkey is partly a matter of the voluntary unemployment of a better-educated population of youth, and partly a matter of involuntary unemployment related to the stabilization program.

Although the data are extremely unreliable, Hansen believes that wages in manufacturing and mining for 1962-85 have been determined less by market forces than by increasingly militant unions, government intervention, and the establishment of an incomes policy, including minimum wages.

This paper is a product of the Political Economy of Poverty, Equity, and Growth study. Please contact Celina Bermudez, room I4-006, extension 39248 (74 pages with tables).

231. The World Bank Revised Minimum Standard Model: Concepts and Issues

Doug Addison

The Revised Minimum Standard Model was originally created in 1973 to ensure a consistent approach to World Bank projections. Its primary purpose, like the original two-gap models, is to show the user what levels of investment, imports, and external borrowing will be required to reach targeted real GDP and export growth rates. But the RMSM cannot provide guidance about the policies or prices that would be needed to reach those levels.

The Revised Minimum Standard Model (RMSM) was originally created in 1973 as a means of ensuring a consistent approach to World Bank projections and thus facilitate intercountry comparisons. These objectives are met through the provision of a standard list of variables and a minimum set of economic relationships. The decision to minimize the number of linkages recognizes two facts: the quality of data for econometric analysis is generally poor, and users undoubtedly want to modify the model to meet their country-specific needs.

The RMSM is a *thinking* and *planning* tool. Its primary purpose, like the original two-gap models, is to show the user what levels of investment, imports, and external borrowing will be required for a targeted real GDP growth rate. The planner's choice of a real growth rate will determine what level of investment will be necessary. If the RMSM is run as a trade-gap model, the level of imports needed to sustain this rate of growth is driven by GDP, investment, and consumption — which is, in turn, residual. If the RMSM is run as a two-gap model and the savings constraint is binding, imports rather than consumption are residual. Real export growth is exogenous in both cases. The difference between exports and imports determines the need for external borrowing. This reflects the Bank's "needs" or "requirements" approach, and contrasts with the "constraints" or "availabilities" approach, which determines the real rate of GDP growth given available foreign capital.

The RMSM cannot, however, provide guidance about the policies or prices needed to reach the indicated levels. At first glance it would seem that the model has a rather limited scope. This is not so. The usefulness of any model is determined by the questions asked of it. One can easily and quickly discover whether or not a targeted growth rate is acceptable in terms of its impact upon per-capita consumption and external financing needs. It is also easy to manipulate the models' parameters to find out how the economy might be restructured to make a target growth rate practical. This sort of experimentation can lead to some very useful observations about the path a country should take in the future.

This paper was prepared in the Africa Country Department IV with the advice and support of the Country Economics Department staff. Please contact Josie Onwuemene-Kocha, room N11-041, extension 39066.

232. Women and Food Security in Kenya

Nadine R. Horenstein

As farmers, traders, income earners, mothers, and family caretakers, women are a critical link in achieving food security. In these roles, women need better access to credit, labor-saving technologies, and agricultural and nutrition extension information, in addition to greater access to and control over income.

Women play a key role in producing and providing food for the family, managing and allocating household resources, and caring for children. Alleviating their time constraints is the single most important way to improve household food security—since it will allow women to take advantage of new resources and opportunities that may have direct links to their ability to assure household food security.

A combination of complementary interventions that address the multiplicity of women's household and market roles is likely to be most effective. These include:

- *Better access to agricultural and nutrition extension information.* Both the process of providing that information, and the information itself, should be adapted to the needs of women. More efforts

should be made to select contact farmers from the population of women, particularly poor women; to channel communications to women; and to stress the need for a balance between cash and food crops, including kitchen gardens. Home economics/nutrition extension information should be integrated with the agricultural extension system because of the complementarity of the topics and their implications for food security.

• *Better access to technology.* Women's access to labor-saving technologies such as posho mills (for grinding maize and other cereals) can save time and also provide income. Improving water supplies can provide substantial benefits in terms of time savings, and health and nutrition.

• *Better access to credit.* Joint title between husbands and wives or legally-recognized user rights could expand women's access to formal credit that requires land as collateral. Group lending schemes—some of which have a 95 percent repayment rate—are one means of sharing the risks and benefits of borrowing. Innovative credit schemes that combine informal and formal credit schemes, and broader dissemination of information about credit facilities, should also help.

• *Better access to and control over income.* Because of women's predominant role in providing food for the family, their access to and control over income is critical to their roles in assuring household food security. Women's income tends to be spent along more nutritionally advantageous lines.

If the employment possibilities and incomes of women are to improve on a continuous basis, short-term solutions based on the development and dissemination of new technologies must be complemented by longer-term policies to increase women's access to training, credit and other resources.

This paper is a product of the Women in Development Division, Population and Human Resources Department. Please contact Mila Villar, room S9-127, extension 33752 (41 pages with tables).

233. Public Enterprise Reform in Adjustment Lending

John Nellis

Specific divestiture dates and institutional public enterprise reform should probably not be a matter of hard conditionality for sectoral adjustment lending. One alternative is to establish institutional development projects that parallel adjustment operations. Another is to establish "primary conditions," nonfulfillment of which would bring an operation to a halt, and "secondary conditions" (including most institutional and public enterprise reforms), nonfulfillment of which would evoke sanctions but not end operations.

Adjustment operations have required or requested:

• Divestiture (in its many forms).

• Policy changes, particularly about pricing.

• Enterprise use of fewer and better managed resources, including labor.

• Better guidance and evaluation by the state.

• Restructuring and rehabilitation at the firm level.

Across the board — but particularly in connection with institutional management, guidance, and performance evaluation — much remains to be done. There is little information about the post-privatization performance of divested firms and disturbingly little evidence that efficiency gains account for the perceived financial improvement in many enterprises — which are probably attributable to investment cuts and price increases in monopolies.

Many governments have reduced the flow of resources into poorly performing public enterprises (PEs) but most PE reform being instituted through adjustment can be seen as preliminary or "brush-clearing" steps. These steps have reduced the burden on the budget, but it is unclear whether the reforms will promote efficiency.

The World Bank should continue to move away, in adjustment conditionality, from specifying numbers of PEs to be sold by date X—which is counterproductive. The divestiture process is too uncertain for date setting, particularly in the short run. It also appears unwise to make purely institutional PE reforms a matter of hard conditionality, because they require more time than several SALs. Institutional development projects that parallel adjustment operations may be one solution.

The Bank might also consider establishing "primary conditions" (a few key, clear, easily monitored objectives, nonfulfillment of which would bring an operation to a halt) and "secondary conditions" (including most institutional and PE reforms in general), nonfulfillment of which would evoke sanctions but not end operations.

This paper is a product of the Public Sector Management and Private Sector Development Division, Country Economics Department. Please contact Rose Malcolm, room N9-055, extension 37495 (27 pages with tables).

234. A Consistency Framework for Macroeconomic Analysis

William Easterly

Illustrating with data for Colombia and Zimbabwe, Easterly presents a consistency framework useful for checking projections or constructing macroeconomic models, reconciling separate accounts for the government, monetary system, nonfinancial private sector, balance of payments, and national accounts.

Consistency is a hobgoblin (to borrow a phrase from Emerson) that macroeconomists cannot avoid. Macroeconomic consistency is the requirement that budget constraints be observed. Budget constraints do not uniquely determine a particular economic outcome, but they do allow analysts to rule out many outcomes when they have some notion of "reasonable" behavior. Often this is enough to evaluate whether a particular adjustment scenario is feasible. What seems at first to be a reasonable projection may be revealed as highly unlikely when analyzed, in a full consistency framework.

Even where a fully specified behavioral model is desired, the consistency relations are invaluable in defining the structure of the model. The consistency framework is not itself a model, which can be used to do projections. It is a generic check on any projection done by an explicit or implicit behavioral model.

Easterly's consistency framework for

macroeconomic analysis includes five accounts, in current prices: government, monetary system, nonfinancial private sector, balance of payments, and national accounts. Easterly presents these as individual accounts, then integrates them through a matrix of income, expenditures, savings, and accumulated assets and liabilities.

Examples of estimation of the framework are presented for Colombia and Zimbabwe.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 39059 (39 pages with tables).

235. Borrowing, Resource Transfers, and External Shocks to Developing Countries: Historical and Counterfactual

Steven B. Webb and Heidi S. Zia

The 16 highly indebted countries received about half the net transfers to developing countries from official and commercial lenders in 1978-82 — and accounted for all the resource flows back to creditors in 1983-86.

Since the late 1970s the buildup of external debt and the struggles to service it have dominated the economic situation in many developing countries.

Statistical evidence on the magnitude of international lending and repayment — and on the question of whether repayment reduced the resources available for development in the 1980s — confirms many commonly held beliefs. Here Webb and Zia focus on the findings that seem new or controversial:

Although most debtor countries have made net transfers of resources to creditors since the 1980s, middle-income countries that have not had to reschedule their debts in the 1980s have averaged smaller net transfers than those that did reschedule. In other words, the well-behaved creditors seem to have received some reward already.

Neither high real interest rates nor adverse terms-of-trade shocks explain most of the debt buildup.

Even if high real interest rates had no effect on real resource flows, they would account for less than 20 percent of the debt buildup.

Adverse changes in terms of trade since 1978, accumulating with interest, accounted for most of the debt buildup in many non-oil developing countries. The mostly favorable terms of trade for oil exporters, on the other hand, gave them large gains that could have more than covered the losses of the oil importing developing countries.

Heavy borrowing by oil exporters during favorable times seems to have been a major factor in precipitating the debt crisis.

Since the debt crisis, the highly indebted countries have greatly increased their official borrowing, apparently at the expense of other developing countries.

Increased official lending might help the resource balance and domestic investment of lower income countries more than those of middle-income countries with high commercial debts.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Emily Khine, room N11-067, extension 37462 (76 pages with charts and tables).

236. Education and Earnings in Peru's Informal Nonfarm Family Enterprises

Peter Moock, Philip Musgrove, and Morton Stelcner

Education improves the earnings of self-employed individuals very little when they engage in traditional economic activities. It becomes valuable when they take up new methods of production, or engage in activities that require literacy, numeracy, or the ability to adjust to change.

Moock, Musgrove, and Stelcner used data from the 1985 Living Standards Survey in Peru to categorize 2,735 nonfarm family enterprises — "informal" businesses that hire little or no labor — and to explain earnings per hour of family labor.

The central question they addressed: Does formal schooling make a difference?

Regression analyses show that schooling affects earnings significantly, for all enterprises combined. This cannot reflect only "screening" but must indicate productivity (allowing for enterprise capital, location, and the age and sex of the workers).

Returns differ markedly among four subsectors — retail trade, textile manufacturing, other manufacturing, and personal services — and by gender and location (Lima, other cities, rural).

Postsecondary education has a fairly significant payoff in urban areas, for both men and women. Returns for women are higher than for men, perhaps because education is still less frequent among women.

Primary education is especially valuable for women, who dominate the textile trades — for which only primary schooling pays off. Men dominate in the personal services subsector, for which post-primary education is valuable. Thus male-female differences are strongly associated with sectoral differences in the value of schooling.

In the retail trade sector, post-primary education appears to be valuable in urban but not in rural areas.

In general, as might be expected, education pays off in jobs that require literacy, numeracy, or the ability to adjust to change. These results are consistent with earlier research indicating that education improves farmers' earnings very little so long as they follow traditional farming practices, where the necessary knowledge is transmitted informally. Education becomes especially valuable only when individuals take up new methods of production, because schooling enables them to apply these methods more quickly and more profitably to their particular circumstances.

This paper is a product of the Education and Employment Division, Population and Human Ressources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640 (40 pages with tables).

237. The Curricular Content of Primary Education in Developing Countries

Aaron Benavot and David Kamens

There is no evidence to support the claim that developing countries teach more subjects or emphasize different subject matter in primary schools than developed countries do—so efforts to change or sim-

plify their primary curricula may be strongly resisted.

Benavot and Kamens examined the curriculum policies for primary schools in a wide range of developing countries in the 1980s and, to a lesser extent, the 1960s. They researched what subjects are taught, what percentage of instructional time is allocated to each subject, and how much instructional time is available overall in primary education. They learned the following:

There is little debate about school curricula in national and international reports, apparently because there is so much consensus around the world about what subjects to offer and emphasize in primary school and how much time to devote to them. In terms of official curriculum policies, anyway, today's primary school curriculum is increasingly taken for granted.

Moreover, the curricula of mass educational systems are increasingly alike all over the world, with surprisingly little regional and national variation. Almost all national educational systems equally emphasize certain core subjects: language (35 percent), math (18 percent), science (8 percent), and social science (9 percent).

Within core subject categories, interesting variations exist. For example, countries in sub-Saharan Africa (SSA) are more likely than countries elsewhere to teach an official language that is not a mother tongue for most of the population. They also offer more instruction in local languages than countries elsewhere. All countries in the EMENA region (southern Europe, the Middle East, and North Africa) offer instruction in an official language and are also more likely to offer instruction in foreign languages than other regions.

As for social sciences, countries in Latin America and the Caribbean (LAC) offer more instruction in social studies and less in history and geography than other regions, except that Asian countries offer the least instruction in history and geography. Countries in the SSA and EMENA offer more instruction in history and geography than other countries. Countries in the SSA offer the most civics courses.

Variety is greater for peripheral subjects. Countries in Asia offer more courses in moral education; countries in the SSA and EMENA more courses in religion; LAC countries more courses in manual training than other regions do. Few developing countries offer a course in "business" or "vocational" education at the primary level. Countries in the SSA include at least one course in prevocational education (usually agriculture or domestic science). No Asian countries offer a course in domestic science.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640 (53 pages with tables).

238. The Distributional Consequences of a Tax Reform on a VAT for Pakistan

Ehtisham Ahmad and Stephen Ludlow

Policy tools, especially tax instruments, can be designed to increase revenues and at the same time protect the poor. The authors' method of estimating the consequences of tax reform shows, for example, that a value-added tax would make Pakistan's tax system more buoyant and reduce the production distortions inherent in Pakistan's current tax system—and not at the expense of the poor.

To what extent do rich or poor lose or gain from different tax reform packages? Using estimates of directions of reform from Ahmad and Nicholas Stern (1988), Ahmad and Ludlow compare the consequences of different options by analyzing actual patterns of consumption and production.

They illustrate, for policymakers, how directions of reform might be evaluated without overly complicated models of the economy, using the sort of data now increasingly available — for example, household surveys being conducted by various World Bank divisions, and by statistical offices around the world.

A country such as Pakistan, which relies on a narrow tax base — consisting primarily of tariffs on intermediate goods and excises on domestic manufacturing— has difficulty ensuring that the tax system keeps pace with the growth in national income and activity, without frequent discretionary changes.

Such changes increase the distortions caused by cascading, with adverse effects on both exports and poor households.

Country-specific administrative capabilities must be considered in designing alternative tax systems, but generally the VAT will be preferable to a system of ad valorem retail sales taxation. The retail sales tax also avoids cascading but yields more uncertain revenues than the VAT, which is collected at each stage in the production process, not just at the retail level. Indeed, one option is to adopt a VAT at the import and manufacturing stages and at the wholesale level.

A VAT also provides a better flow of information—useful in the collection of income and corporate taxes, and in reducing distortions in production decision-making. A correctly designed consumption-based tax instrument such as the value-added tax (VAT) can increase the tax base and remove production distortions — at the same time protecting the interests of the poor.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-061, extension 37699.

239. The Choice between Unilateral and Multilateral Trade Liberalization Strategies

Julio Nogués

Developing countries would gain far more from unilateral trade liberalization than from multilateral trade liberalization negotiated over many years. Industrial countries could increase both economic and political incentives for reform by granting credit when developing countries undertake unilateral trade liberalization.

Under plausible assumptions applied for Argentina, Nogués calculates that a strategy of unilateral trade liberalization in Argentina would produce significantly more in exports (net present value) than would similar liberalization negotiated multilaterally over a period of 15 years.

Waiting to negotiate multilaterally entails a true cost (loss of exports because of continued misallocation of resources) and an uncertain benefit (the market access a country expects to gain by waiting to negotiate a reciprocal reduction of trade barriers). Liberalizing unilaterally implies a fast increase of

exports from improved resource allocation but could imply a loss from a lower degree of market access.

Generally, Nogués concludes, as long as the costs a country suffers from its barriers are higher than those from other countries' barriers, it pays that country to liberalize unilaterally.

Developing countries tend to have more protectionist trade policies than the industrial countries. To the extent that this is so, it probably doesn't pay for developing countries to wait to negotiate in the multilateral trade negotiations (MTNs) — because to the extent that concessions are balanced, developing countries are not likely to end up with liberal trade regimes.

Those conclusions are based on economic analysis, however, and developing countries are increasingly driven by politics — and only marginally by economics — to participate in the MTNs.

If industrial countries were to give developing countries credit for unilateral liberalization programs, both economics and politics would shift in favor of faster reform programs. If credit were given, negotiating in the MTN would *never* be preferable to unilateral trade liberalization.

The net present value of increased exports from unilateral trade liberalization in Argentina would increase from US$19 billion (if no credit were given) to US$33.4 billion (if credit were granted in increasing amounts for the first 15 years and remained constant thereafter). And the political excuse for not liberalizing unilaterally would suffer a major blow.

Waiting for multilateral negotiation of trade liberalization is certainly preferable to maintaining protection, however. Nogués estimates that the present value of forgone exports would be US$53 billion if the present degree of protection were to remain unchanged.

This paper is a product of the International Trade Division, International Economics Department. Please contact Salome Torrijos, room S8-033, extension 33709 (20 pages with charts and tables).

240. The Public Role in Private Post-Secondary Education: A Review of Issues and Options

Ake Blomqvist and Emmanuel Jimenez

Should private educational institutions be encouraged, through financial incentives and constraints, to play more of a role in post-secondary education? What public policies, subsidies, and regulations should be used to influence them?

Can private educational institutions, responding to financial incentives and constraints, play more of a role in helping society provide efficient and equitable post-secondary education? This question is important because budget constraints are forcing developing countries to look for alternatives to heavily subsidized public services. The authors review the literature, focusing on how public subsidies can be used to meet social objectives when education is privately provided.

The appropriate level of public subsidy to private post-secondary education hinges in part on the extent to which social exceed private benefits.

In recent years there is increasing evidence in many developing countries of a growing problem of graduate unemployment and tendencies toward "credentialism" in the allocation of desirable jobs in the public sector and elsewhere. Higher education is also perceived as a socially unproductive but privately profitable screen or signalling device. The authors argue that public subsidies should be targeted toward disciplines that have high social returns. They call for more empirical work to allow policymakers to distinguish among activities.

If subsidies are to be used to make private higher education more accessible to the poor, a strong case can be made for targeted subsides such as scholarships and/or loan guarantees available only to students from low-income families (and only to low-income students with good marks, if one goal is efficiency).

A general subsidy to all post-secondary students, designed to allow low-income students to attend school, might have a regressive impact because children from higher-income families are more likely to use the subsidy than children from low-income families — all the more so if the subsidy is rationed by good marks.

The paper also discusses ways to promote quality among private institutions. Certain government policies may influence higher education at least as much as various forms of direct regulation or subsidy. The most efficient way to make schools better is probably to design an incentive system that rewards institutions on the basis of how their graduates perform — although this might favor students from high-income families.

In addition, inappropriate labor market legislation and government behavior as an employer may have contributed to problems of graduate unemployment, credentialism, and a generally swollen bureaucracy in some countries.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699 (42 pages with tables).

241. The Effect of Job Training on Peruvian Women's Employment and Wages

Ana-Maria Arriagada

Post-school training significantly improves the employment probabilities but not the wages for urban salaried and self-employed women in Peru, possibly because they train for low-paying jobs. Because their chances of receiving job training are largely determined by educational attainment, women with limited schooling also face limited training opportunities.

How does post-school training affect the employment and wage opportunities of urban women? This study of 3,826 urban Peruvian women aged 15 to 65 — drawn from the Peruvian Living Standards Survey — produced several conclusions:

Attendance in post-school training programs is extensive. About 28 percent of all women participate in occupational training outside the educational system. Most female trainees prepare for predominantly female occupations (clerical jobs) by attending proprietary institutes (academes) rather than job-based programs sponsored by the government through

vocational training institutions.

The more schooling a women has, the more likely she is to receive job training. Women with less than secondary schooling have few opportunities for training. The typical trainee has completed secondary school, is in her early twenties, and tends to have had over a year of work experience when she receives training.

Post-school training generally increases a woman's chances of entering the labor force. Training increases the probability of private sector wage employment by 10 percent; public sector employment by 2 percent; nonwage sector employment by 5 percent.

Controlling for this employment effect and contrary to expectations, job training did not increase the hourly wage rates of women in the wage (private) and nonwage employment sectors.

There are several possible explanations for this finding. First, since women, on average, tend to expect to work outside the home fewer years than men, they have an incentive to train for occupations that require lower investments in human capital than those chosen by men. Typically, these occupations are characterized by flat wage profiles. Second, there are no standards for assessing the quality of the training in proprietary institutes where most women are trained. Finally, discrimination against women may prevent them from entering not only the most successful training programs but also the jobs that allow more wage and career advancement as well.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640.

242. A Multi-Level Model of School Effectiveness in a Developing Country

Marlaine E. Lockheed and
Nicholas T. Longford

Schools in Thailand are more uniformly effective than previous research in developing countries would suggest. Higher levels of math achievement are associated with more qualified math teachers, an enriched curriculum, and frequent use of textbooks.

What makes one school more effective than another — particularly which inputs and management practices most efficiently enhance student achievement — has become the center of lively debate in the literature. Which method to use to compare school effects particularly concerns analysts.

Lockheed and Longford used a multilevel model to analyze what improved performance in grade 8 mathematics in Thailand. They concluded that:

- Schools in Thailand were equally effective in teaching students eighth grade mathematics (for example, in transforming pretest scores into posttest scores).
- Schools and classrooms contributed 32 percent of the variance in posttest scores and individual characteristics 68 percent.
- Greater learning occurred in schools having a higher proportion of teachers qualified to teach mathematics, classrooms having an enriched curriculum and in which textbooks frequently were used.
- Learning was higher for boys, younger students, and for children who reported higher educational aspirations, less parental encouragement, more confidence in their own mathematics ability, greater interest in mathematics, and a feeling that mathematics was relevant to them.
- Schools in Thailand were more uniform in their effects on learning than previous research in developed countries had suggested would be the case.

The model developed by Lockheed and Longford was able to explain most variance between schools but significantly less within schools. Only one variable slope was observed: the relationship between educational aspirations and achievement.

Lockheed and Longford applied multi-level techniques to longitudinal data recently collected by the International Association for the Evaluation of Educational Achievement in Thailand.

One question they tried to answer was: How do estimates obtained from the new multi-level techniques compare with those obtained from ordinary regression methods?

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-001, extension 33640 (66 pages with tables).

243. Averting Financial Crisis — Kuwait

Fawzi H. Al-Sultan

Speculation in Kuwait's surging stock market in the early eighties fueled a financial crisis that threatened the banking system and required government intervention.

On August 8, 1982 a leaflet was distributed in the Suq Al Manakh building and in the basement of Commercial Center No. 5, the offices of the parallel stock market and the Kuwait Stock Exchange. The leaflet carried the names of most of the dealers in the stock market and it declared a one-month moratorium on all payments of maturing future cheques. The moratorium, informal as it was, was respected by the dealers. By that time, close to a month had passed since the first major default, and backlogs in payments had brought the accepted form of clearing to a halt. The moratorium also marked the beginning of a financial crisis that would absorb the country's full attention.

During the next two years stock market and real estate prices fell more than 50 percent, devastating investors who had bought the underlying assets at future prices that were multiples of the current market value. Because these equities had been bought with postdated cheques—the acceptable form of payment in future transactions—buyers and sellers found themselves unable to settle their accounts and the government was forced to intervene.

The government's actions should be seen in the context of its desire to maintain social harmony in a small, closely knit society during the protracted Iran-Iraq war. Accordingly, officials pursued a policy to sidestep commercial regulations and bankruptcy law in the interest of settling outstanding claims as quickly as possible.

While asset prices continued to fall under the impetus of government intervention, the decline was reinforced by political and economic shocks that affected domestic growth. The sharp drop in oil prices and production cutbacks led

to lower government revenues, reducing the level of public spending programs. At the same time, the continuation of the Iran-Iraq war and the recession in the oil-dependent Gulf countries reduced nonoil trade and dampened economic expectations.

This paper traces the development of Kuwait's financial crisis and describes the interventions devised by the government as events unfolded. The critical question is whether the solutions will reignite Kuwait's nonoil economy and stimulate the participation of the private sector.

This paper is a product of the Office of the Executive Directors. Please contact Rafia Simaan, room E1-127, extension 72167 (52 pages with charts and tables).

244. Do Caribbean Exporters Pay Higher Freight Costs?

Alexander J. Yeats

Air freight is more cost efficient for most Caribbean countries than ocean transport. Most Caribbean countries pay less for air cargo service than their competitors — and about the same for ocean freight. They pay a premium, however, on food and raw agricultural products.

Using two independent sources of data on international transport and insurance costs, Yeats investigated the charge that Caribbean exporters are at a competitive disadvantage because of discriminatory freight rates — particularly liner conference pricing practices. He concluded that:

Air cargo service costs are lower for most of the Caribbean countries studied than for their competitors. (Dominica and Guyana are exceptions, due to unusual air freight costs for several major products.) Over one-third of all shipments to the United States (excluding petroleum and sugar) involve air transport — the use of which has been rising rapidly in the 1980s.

Most Caribbean countries pay about the same ocean freight rates as their competitors, although Guyana, St. Kitts, St. Lucia, and Suriname pay more on many major exports.

Caribbean exporters are more likely to pay a premium on transport costs for food and agricultural raw materials (which rely heavily on ocean transport) than on manufactured goods (a relatively high percentage of which are shipped by air).

Although they do not pay higher average freight costs than their competitors, Caribbean exporters could reduce their freight costs by improving ports, bulking cargoes, forming shippers' unions, and adopting uniform transport modes.

Several lines of analysis warrant further study:

How can the Caribbean countries best exploit the cost advantage they have for products exported by air?

Why is ocean transport so much less cost efficient than air freight for Caribbean countries?

Why do certain product groups, such as food and agricultural raw materials, cost proportionately so much more to transport?

This paper is a product of the International Trade Division, International Economics Department. Please contact Jean Epps, room S8-035, extension 33710 (164 pages with charts and tables).

245. Developing a Partnership of Indigenous Peoples, Conservationists, and Land Use Planners in Latin America

Peter Poole

Recommendations for working in partnership with indigenous peoples, recognizing their land rights, incorporating their environmental knowledge into wildlands and native area planning, and paying more serious attention to the economics and resource implications of local activities to harvest wild resources — especially in environmentally delicate areas such as tropical rainforests.

Illustrating from a rich body of case material from Canada, Latin America, and other regions, Poole suggests certain principles for incorporating indigenous peoples and their environmental knowledge into wildlands and native area planning.

His report reflects a shift away from the traditional view — represented by certain national parks and similar protected areas — that indigenous peoples be allowed to occupy and use an area's resources following rules set by conservationists. Under the new paradigm that is developing, indigenous peoples are seen as an integral part of protected area planning through agreements worked out in *partnership* with conservation authorities. An example of this new approach is the role of indigenous peoples are playing in the design biosphere reserves.

Poole argues that recognizing the land rights of indigenous peoples, far from hindering the rational occupation and development of these lands, allows better use of their environmental knowledge. His findings apply only in areas where resident indigenous populations and protected wildlands areas overlap.

He recommends that nongovernment organizations (NGOs) be given more responsibility for reconciling the often conflicting interests of national land-use planners and indigenous communities — because native groups are more likely to trust NGOs than large public sector organizations.

The Bank should pay close attention to these collaborations with NGOs, he contends — especially those in threatened rainforest areas — and where conditions merit integrate them into Bank policy discussions and project planning.

Poole suggests that the Bank and other development organizations pay more attention to "vernacular economies" — economies based on local resources, used either for subsistence or as a source of revenue. These mixed subsistence-cash economies — many of them based on the management and extraction of wild resources — do not easily conform to prevalent models for either development financing or ecosystem management. They demand an approach that allows for experimentation and recognizes local needs and capacities.

Vernacular economies correspond to the "third option" for economic evolution that may emerge when indigenous and industrial economies come into contact. Mixed cash-subsistence economies that often result from such contact are seen by some as a transitional phase in an inevitable process of assimilation — and by others as an evolutionary process in which features of indigenous and industrial economies are combined in an assimilative system that eludes conventional economic analysis.

Poole recommends more research into the economics and resource implica-

tions of these local activities to harvest wild resources, especially in environmentally delicate areas such as tropical rainforests.

Drawing on a rich pool of case studies — illustrating clashes between animal protectionists and indigenous hunting societies, for example — Poole concludes by identifying 10 areas of recommended action.

This paper is a product of the Environment Division, Latin America and the Caribbean Technical Department. Please contact Shelton Davis, room I4-039, extension 38622 (96 pages).

246. Causes of Adult Deaths in Developing Countries: A Review of Data and Methods

Richard Hayes, Thierry Mertens, Geraldine Lockett, and Laura Rodrigues

Little is known about the causes of adult deaths in most developing countries. The authors recommend developing and validating diagnostic algorithms to determine the causes of adult deaths, using lay interviewers to conduct retrospective interviews of relatives of the deceased.

Relatively little attention has been paid to the problem of premature adult mortality in developing countries, despite high levels of mortality in many countries — and despite the potentially severe social and economic consequences of adult deaths.

This inattention is reflected in a dearth of information about the causes of adult deaths in these populations. Such information is available from vital registration data in certain Latin American and Middle Eastern countries, but elsewhere — especially in Sub-Saharan Africa and Southern Asia — the sparse information available comes mainly from survey and hospital data and is generally of limited usefulness.

Circulatory diseases and external causes (injuries) appear to be major causes of adult deaths in most countries. The relative contribution of other important causes — including tuberculosis, cancer, liver disease, respiratory disease, and maternity-related complications — varies between countries.

After reviewing methods used in previous studies to diagnose the causes of death in children and adults, the authors recommend developing and validating diagnostic algorithms to determine the causes of adult deaths, for use in single-round surveys, using lay interviewers to conduct retrospective interviews of relatives of the deceased.

Techniques for determining cause-specific adult mortality require thorough field testing and validation. The authors discuss several possible approaches, and categorize selected major causes of death according to whether they are likely to be diagnosed or excluded, on the basis of symptoms reported by relatives. They consider methods for classifying and presenting data on cause of death and conclude with recommendations for further methodological research.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091 (40 pages with charts and tables).

247. Macroeconomic Policies for Structural Adjustment

Carlos Alfredo Rodriguez

A stable macroeconomic environment and a functioning market economy are two essential preconditions for successful structural adjustment. Macroeconomic stability requires a low fiscal deficit to support external balance and low inflation. Only under these conditions can a change in microeconomic incentives succeed in developing resources to their most productive uses.

Structural adjustment is an economywide adjustment effort aimed at allocating resources better. Functioning markets and a low, stable inflation rate are two macroeconomic preconditions for implementing structural adjustment, contends Rodriguez. He further concludes:

In highly distorted economies, the market system must be restored before adjustment efforts are undertaken. An inflation rate over 20 percent is likely in most countries to generate unstable prices that would impair adjustment.

Fiscal deficits and policies about (internal and external) government debt are the key determinants of the inflation process. As a general rule, government debt as a fraction of GDP should not exceed the government's relative participation in generating that GDP.

Fiscal deficits are probably a key determinant of trade deficits — particularly when the fiscal deficit is financed abroad. The trade deficit generally depends on all variables directly linked to the desired rate of foreign savings. Efforts should be made to estimate the equilibrium trade deficit with all available relevant information, as this estimate is important in determining the real exchange rate.

The main determinants of the real exchange rate are the level of excess spending in the economy (measured by the trade deficit), the external terms of trade, and domestic measures of commercial policy that allow for a difference between domestic and foreign prices.

The instruments of the adjustment program may affect the equilibrium values of the key macroeconomic variables: inflation, the fiscal deficit, debt ratios, the trade balance, and the real exchange rate. If they do, measures should be taken to keep the target variables at their desired levels and the endogenous variables at their new equilibrium levels.

In particular, the fiscal deficit should be compatible with the acceptable inflation rate — and the real exchange rate should be at its equilibrium level.

Macroeconomic stability is essential to both adjustment and growth. Given a stable macroeconomic environment and the correct microeconomic incentives, resources will be allocated to their most productive use without additional macroeconomic incentives such as subsidized credit or an arbitrarily high real exchange rate. Growth is best served by a functioning capital market; governments should not interfere by controlling interest rates at below-equilibrium level, or targeting an arbitrarily high real exchange rate.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 39059 (66 pages with charts and tables).

248. Private Investment, Government Policy, and Foreign Capital in Zimbabwe

Mansoor Dailami and Michael Walton

Policy measures to encourage recovery of private investment in Zimbabwe should focus not on measures to raise current profits but on measures to relieve supply-side constraints, to reduce perceived risk, to clearly define the rules of the game for foreign investors, and to create a more favorable environment for investment decisionmaking.

The response of private investment is central to the effectiveness of adjustment measures in bringing about structural change and sustained growth — but there is little analysis of this issue for Africa.

In some African countries there is little or no indigenous business sector; in many, foreign corporations play an important role. Zimbabwe's business sector is relatively well-developed by African standards — and since there is a working stock exchange, the accounts of much of it are in the public domain.

This study focused largely on the behavior of this part of the private sector — in the context of overall determinants of private investment.

Dailami and Walton conclude that no simple policy shift will initiate and sustain the recovery of private investment in Zimbabwe. The reasons for weak private investment are complex. Adjustments in conventional areas are unlikely to work when the problem also lies in the overall environment for investment decisionmaking and intangible perceptions of future risk.

The government's current focus on the guidelines for foreign investment is appropriate and important, but should be cast in a broader context. Policy measures should be geared toward:

- Relaxing supply-side constraints.
- Reducing perceived risks.
- Defining new, clearer rules of the game.
- Facilitating investment decisionmaking.
- Encouraging the underlying demand for expanding capacity.
- Improving incentives for investment to be economically efficient.
- Dealing with the ownership issue.
- Creating a supportive macroeconomic environment.

Together these measures would constitute a radical shift in the business environment — one that need not lead to an unwarranted rise in either the foreign share of profits or the share of foreign capital in the economy.

This paper is a product of the Financial Policy and Systems Division, Country Economics Department, and the Country Operations Division, Southern Africa Department. Please contact Maria Raggambi, room N9-031, extension 37657 (64 pages with charts and tables).

249. The Determinants of Hospital Costs: An Analysis of Ethiopia

Ricardo Bitran-Dicowsky and David W. Dunlop

For hospitals to become more independent in financing their costs, they must know how those costs are influenced by output and other variables. This analysis of costs in Ethiopian hospitals addresses for the first time the issues of economies of scale and scope in delivery of hospital-based health care services in a poor country.

The problem of financing health care in poor countries has become acute. Hospitals are viewed skeptically as facilities that are not cost-effective in providing primary health care services. Increasingly it is thought that hospitals should become more financially independent from government subsidies and find other ways to finance both their recurrent and capital costs.

First, it is necessary to know how hospital costs are influenced by output and other variables. In this paper, Bitran-Dicowsky and Dunlop analyze the determinants of hospital expenditures (a proxy for hospital costs) in a poor country, using data from Ethiopia.

The authors specified and estimated a translog-like cost function, using ordinary least squares (OLS). This specification allows an explicit determination of the marginal expenditure for care, given the structure of output and other factors, such as input prices, that might affect the structure of expenditures. Thus it provides a theoretically more appropriate framework for analysis than the overworked "unit cost" approach.

The sample consisted of 38 observations of 15 hospitals, with 1 to 3 annual observations per hospital. About half the hospitals had fewer than 76 beds; the other half had more than 150 (some more than 300). Hospitals reported expenditures rather than costs (thus undoubtedly understating total costs). Data on input prices were unavailable; proxy variables were used.

Analysis showed that the number of inpatient days, deliveries, and laboratory exams had a positive and statistically significant effect on total cost. The volume of outpatient activity, as measured by the number of first outpatient visits to the hospital's clinic, also had a positive impact on total costs.

The estimated cost function was used to compute marginal and average incremental costs. Calculated marginal costs slightly exceeded average incremental costs — suggesting that hospitals in our sample had reached the pont of constant economies of scale for inpatient days, laboratory exams,and delivery outputs.

A negative and statistically significant coefficient associated with the output interaction term indicated the existence of economies of scope between the number of inpatient days and the number of first outpatient visits.

The number of total beds in a hospital appeared to have a positive and significant independent effect on total hospital cost. Neither of the input price proxy variables had a statistically significant impact on total cost.

This paper is a product of the Health and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091 (26 pages with tables).

250. The Baker Plan: Progress, Shortcomings, and Future

William R. Cline

The basic strategy spelled out in the Baker Plan (1985-88) remains valid, but stronger policy efforts are needed, banks should provide multiyear new money packages, exit bonds should be guaranteed to allow voluntary debt reduction by banks, and net capital flows to the highly indebted countries should be raised $15 billion a

year. Successful emergence from the debt crisis, however, will depend primarily on sound economic policies in the debtor countries themselves.

The Baker Plan essentially made existing strategy on the debt problem more concrete. Like existing policy, it rejected a bankruptcy approach to the problem, judging that coerced forgiveness would "admit defeat" and cut borrowers off from capital markets for many years to come. It assumed that the principal debtor countries could grow their way out of the debt problem and could expand their exports enough over time to reduce their debt burden to normal levels. It called for structural reform (particularly trade liberalization, more liberal policies on direct foreign investment, and reform of the state enterprise sector). And it continued the adjustment efforts in the debtor country in return for financial support from foreign official and bank creditors.

The plan did shift emphasis, however: from short-term balance of payments stabilization to longer-term development objectives, and thus from the IMF to the World Bank as lead institution in debt management. It did not address the problem of the transition from "involuntary" lending of new money — in which all banks were pressured to lend new amounts proportionate to their exposure — back to voluntary capital flows. And it failed to integrate all public lending, remaining silent on the role of the IMF.

Except for the collapse of oil prices, global economic conditions were broadly favorable to debt management under the Baker Plan. Major Latin American debtors achieved important reductions in interest/export ratios. On the other hand, the banks provided one-third less new money than the Baker Plan target, and the multilateral development banks raised net flows by only one-tenth of the targeted $3 billion annually. If the IMF and bilateral export credit agencies are included, net capital flows from official sources to the highly indebted countries (HICs) actually fell, from $9 annually in 1983-85 to $5 billion annually in 1986-88.

Political fatigue is evident in major debtor countries but their recent stagnant growth has been caused primarily by internal economic distortions (high fiscal deficits and inflation), not the debt burden. Of the six large Latin American debtor countries, the three with the largest outward transfer of resources relative to GNP (Chile, Colombia, and Venezuela) achieved the highest growth and the lowest inflation in 1986-88, indicating that external debt does not explain high inflation or low growth in Argentina, Brazil, and Mexico.

The basic international debt strategy remains valid, but intensified policy efforts are necessary. Banks should provide multiyear new money packages. Banks should also confer senior status on "exit bonds," and the World Bank should then guarantee these instruments — to make viable substantial voluntary debt reduction by interested banks. Bilateral and multilateral creditors should raise annual net capital flows to the highly indebted countries by $10 billion annually, and the banks by $5 billion, to cut the outward resource transfer in half over the next 3 years. The key to successful emergence from the debt crisis, however, will have to be sound economic policies in the debtor countries themselves.

This paper, prepared for the conference "Dealing with the Debt Crisis," is a product of the Debt and International Finance Division, International Economics Department Please contact Sheilah King-Watson, room S8-029, extension 31047 (52 pages with charts and tables).

251. Patents, Appropriate Technology, and North-South Trade

Ishac Diwan and Dani Rodrik

The debate about stronger enforcement of patents on intellectual property rights assumes that the technological needs of the North and the South are similar. What happens to the debate when we allow for different technological preferences in the North and in the South?

At the heart of the debate about intellectual property rights (IPRs) that is consuming so much attention in the Uruguay Round of trade negotiations is one basic economic issue. Most patented products or processes that make it to Southern markets are developed in the North. It is therefore believed that the North would profit from tighter patent procedures in the South, to protect Northern firms from imitators in their export markets — and that the South would like to pay as little as possible for these innovations, which lax patent procedures allows. It is recognized that this reduces the incentive for R&D in the North, but as long as the South is a small part of the market, free riding does little harm.

In this paper, Diwan and Rodrik bring another feature to the debate: the possibility that the North and South may have differing technological needs. Just as the North would like to develop drugs against cancer and heart disease, and the South drugs against tropical disease, so the North's labor-saving innovations are less useful in the South, where labor is cheap. Southern patents might promote the development of technologies appropriate to the South that might not have been developed if there were no patents. In this case, lower patent protection in the South would not benefit the South — and increased patent protection in the South can hurt the North when the resources that go into R&D are limited.

Diwan and Rodrik develop a formal model for IPRs, emphasizing the dimension of technological choice. This model allows for a continuum of potential technologies, with a range of preferences in the North and South; free entry into the R&D sector rather than duopolistic competition between two firms; and gradations of patent protection. It assumes that both markets are segmented, due to different patent-law application in the two regions.

Some of the usual free-rider considerations must be qualified if the analyst considers the possibility that patent laws in the two regions affect both the quantity and quality of innovation. This becomes important when the two regions have different technological needs.

What are the results of the analysis? First, an increase in patent protection in either region leads to an increase in innovative activity, as well as a greater fit between the available technologies and the preferences of the patenting region. By implication, this skews the technology range away from the needs of the other region.

Second, although a strictly utilitar-

ian global welfare function would assign identical rates of patent protection to the North and South, placing greater weight on the welfare of the South necessitates differential treatment. But it is not clear *a priori* whether the South ought to have a lower or higher level of protection than the North.

Third, when patent rules are set in an uncoordinated manner, it is possible that a narrowing of the gap between the technological preferences of the two regions will lead to lower rates of patent protection in both the North and the South. Similarly, an increase in the relative market size of the South can lead to a reduction in patent protection in *both* regions.

This paper is a product of the Debt and International Finance Division, International Economics Department. Please contact Sheila King-Watson, room S8-029, extention 31047 (37 pages with charts and tables).

252. Do the Secondary Markets Believe in Life After Debt?

V.A. Hajivassiliou

Secondary market values tend to reflect past difficulties rather than anticipate future ones. They can't be used to build a case for debt relief on the grounds that it would cause secondary discounts to fall and hence the value of outstanding debt to rise.

Using panel-data econometric techniques to examine the case for external debt relief, Hajivassiliou explores the relations between measures of creditworthiness and debt discounts on the secondary market.

Do the discounts on the secondary market reflect a history of past repayment problems — or do they anticipate future debt crises? Different answers to this question imply different things about the desirability of debt relief.

If the secondary market discount is a good predictor of future debt problems — and not merely a reflector of past problems — then debt relief, in averting anticipated problems, will reduce the secondary market discounts and increase the value of debt held by international lenders.

Hajivassiliou found, however, that secondary market values tend to reflect past difficulties, not anticipate future ones — so they can't be used to build a case for debt relief. The secondary markets — still in an early evolutionary stage — are quite "thin" and thus unable to exploit efficiently and quickly all available information on creditworthiness.

Hajivassiliou also uses the model estimates to analyze other issues, including whether large surpluses by the oil-exporting nations significantly affected international lending markets after the first major oil shock; the question of liquidity vs. solvency; the degree to which discrepancies between official and black market exchange rates can predict future financing problems (little evidence was found to support the proposition that overvaluation is a precursor of debt crisis); and the degree to which factors exogenous to a country (such as imports by industrialized countries, inflation in OECD nations, and world interest rates) contribute to a country's debt crisis.

World economic factors were generally found to be statistically insignificant as predictors of repayment problems in developing countries — except that inflation in the industrialized countries in some versions of the models is found to marginally reduce the likelihood of future debt problems in developing countries.

This paper, prepared for the conference "Dealing with the Debt Crisis," is a product of the Debt and International Finance Division, International Economics Department Please contact Sheilah King-Watson, room S8-029, extension 31047 (40 pages with charts and tables).

253. Public Debt, North and South

Helmut Reisen

Why has government debt risen since 1984 despite rationed foreign lending and efforts at fiscal consolidation? And how can the rising debt be stopped? Possible remedies are growth-oriented fiscal adjustment, improved debt management, and voluntary debt reduction.

The recent rise in *domestic* public nonmonetary debt and in domestic bond yields is imposing a heavier burden on governments in countries like Brazil and Mexico than foreign debt does. This is a relatively new experience for developing countries but not for OECD countries.

Reisen's discussion of rising government indebtedness, therefore, includes the experiences of four developing (Brazil, Mexico, Korea, and Indonesia) and three highly indebted OECD countries (Belgium, Ireland, and Italy). (Neither are the former four, especially Korea and Indonesia).

Why, Reisen asks, has government debt been rising since 1984 despite rationed foreign lending and efforts at fiscal consolidation? He finds the major determinants of debt to be:

- External transfers, which imply an internal transfer of resources from the private to the public sector.
- Fiscal rigidities, because of failure to broaden tax bases and cut government consumption.
- High interest rates coupled with low growth of GDP, both explained largely by depressed savings and investment.
- Massive devaluation of the real exchange rate and big swings in value among key currencies.

How can the rise in government debt be stopped in the long run? *Not* through a burst of inflation, even when it is largely unanticipated — because the demand for base money is now too small relative to public domestic debt. *Nor* through domestic and foreign default — unless the government runs a substantial primary surplus (which is mostly not the case) and can credibly commit to not defaulting again (which is unlikely).

Possible remedies, Reisen suggests, are growth-oriented fiscal adjustment, improved debt management, and voluntary debt reduction. He calculates the noninterest surplus governments would have to run to stabilize (and then reduce) public debt ratios and make their budgets consistent with other macroeconomic targets. He also discusses how fiscal adjustment can foster growth at the same time that it minimizes real depreciation of the exchange rate and reduces the cost of domestic public debt.

This paper, prepared for the conference "Dealing with the Debt Crisis," is a product of the Debt and International Finance Division, International Economics Department Please contact Sheilah King-Watson, room S8-029, extension 31047 (34 pages with tables).

254. Future Financing Needs of the Highly Indebted Countries

Ishrat Husain and Saumya Mitra

What amount of external resources would be required to reverse recent investment trends and bring about modest growth in per capita incomes? Between $18 and $20 billion of net new disbursements annually. But consider the alternatives...

Under base scenario assumptions, the authors estimate that the Baker 17 countries will require about $18 to $20 billion of net new disbursements annually to reverse recent investment trends and bring about modest growth in per capita incomes.

The most significant shortfall is in commercial bank lending. Without an adequate burden-sharing arrangement, it is unlikely that official creditors — particularly the multilateral institutions — would be prepared to assume a disproportionately large exposure risk in these countries.

Husain and Mitra conclude that with sound adjustment policies in the debtor countries, a combination of concerted new lending, debt reduction, reflows of flight capital, and intermittant accumulation of interest arrears will be the principal means of financing.

Some countries — such as Mexico, Venezuela, Nigeria, and Ecuador — need external financing to offset their worsening terms of trade. Others need it to restore productive investment to reasonable levels.

At least some countries should be able to work their way out of the debt crisis, as their needs are feasible, so commercial bank creditors will probably respond favorably. Others will have to balance the finance from official and private creditors.

Others will be unable — even under the most stringent conditions and policies — to grow out of their present difficulties without some reduction in the stock or servicing of their debt.

The lumping together of good and bad debtors is repulsing efforts of countries that should have access to voluntary lending. The main actors should begin by abandoning the concept of a homogeneous group of 15 or 17 highly indebted countries (HICs). The contagion effect should not deter the creditors from differentiating between countries on the same continent that have managed their economies well and are close to creditworthiness from those whose economic policies and management are of questionable quality.

The next logical step is to develop a cooperative framework that channels money through equitable burden sharing and promotes credit enhancement, debt reduction, and other innovative financing techniques in support of growth-oriented adjustment programs.

The alternative is continued stagnation in the highly indebted countries — which could mean political and social unrest, a greater reluctance to maintain orderly debtor-creditor relationships, and a disruption of debt servicing even in countries that have carried out their obligations unfailingly.

This paper, prepared for the conference "Dealing with the Debt Crisis," is a product of the Debt and International Finance Division, International Economics Department Please contact Sheilah King-Watson, room S8-029, extension 31047 (34 pages with tables).

255.The External Debt Difficulties of Low-Income Africa

Charles Humphreys and John Underwood

The debt crisis that affects middle-income developing countries gets more publicity than the one that affects low-income African countries — but the debt service in 10 of those countries averages 80 percent of annual exports. Poverty and economic rigidities make it hard for them to grow out of their debt problems without increased concessional aid and debt rescheduling.

Two debt crises affect developing countries. The more publicized crisis affects the middle-income Baker Plan countries, including Nigeria and Côte d'Ivoire. The less well known crisis affects most of Africa's 34 low-income countries.

The total external debt of these countries — about $70 billion — is less than the debt of Mexico alone. International bank exposure there is less than $10 billion. Low-income Africa's external liabilities are mainly loans from, or guaranteed by, official creditors. Their debt represents no threat to the international financial system, so it generates little publicity.

But their external debt represents, by many measures, a more severe economic burden than the debt of the middle-income countries. Ten of the most severely indebted African countries owe an average of over 1,000 percent of their annual exports.

Poverty and economic rigidities in the African countries make it harder for them to grow out of their debt problems without special assistance. These countries are more dependent than the highly indebted countries on primary commodity exports, which often require long investment periods to increase production. Expanding the output of tradable goods, which is central to adjustment, is difficult and likely to be slow.

Recognizing the problems of these countries, several bilateral donors have converted concessional development loans to grants in many of these countries. Donor governments have endorsed concessional debt relief. The near-term relief from rescheduling will not be great, but the principal of orderly debt reduction has been put into practice.

Debtor countries must take the lead in establishing and maintaining workable medium-term adjustment programs. Once adjustment is occurring, it is in the interests of donors and creditors to continue supporting recovery well into the 1990s.

This paper, prepared for the conference "Dealing with the Debt Crisis," is a product of the Debt and International Finance Division, International Economics Department Please contact Sheilah King-Watson, room S8-029, extension 31047 (49 pages with charts and tables).

256. Cash Debt Buybacks and the Insurance Value of Reserves

Sweder van Wijnbergen

Secondary market prices on debt don't reflect the insurance value reserves have for debtors (but not creditors) — so a country buying back debt with reserves may end up worse off in terms of welfare.

Bulow and Rogoff (1988) have shown that auction-based purchases of debt may not be an effective way to capture the secon-

dary market discount, since the purchase pushes up the secondary market afterward. (The problem is that marginal debt is bought back at an average price, while the marginal price is substantially below the average if more debt reduces creditworthiness.)

Van Wijnbergen points out another problem with cash debt buybacks — one that arises because terms-of-trade-contingent instruments do not exist in international capital markets, and because of the differences in risk aversion that one may plausibly assume to exist between commercial creditors and the developing countries that are their debtor clients.

Under such circumstances, secondary market prices fail to reflect the insurance value reserves have to debtors but not to creditors — since, after all, the secondary market reflects mostly intrabank transactions.

Since a country can always opt not to use its reserve for debt service, reserves have an insurance value that is specific to the country. This insurance value will thus not be reflected in the price at which the country can buy back debt in the secondary market using its reserves.

As a result, the country buying back debt with reserves clearly ends up worse off (in terms of expected utility), even if it succeeds in capturing the full secondary market discount prevailing *before* the buyback — because the buyback reduces the insurance possibilities open to the country.

This paper is a product of the Country Operations Division, Latin America and the Caribbean Country Department II. Please contact Myriam Bailey, room I8-169, extension 31854 (12 pages).

257. Growth, External Debt, and the Real Exchange Rate in Mexico

Sweder van Wijnbergen

Can external restraint and internal balance in Mexico be reconciled at savings and investment levels that allow satisfactory output growth? What role do fiscal policy, interest rates, oil prices, and exchange rates play? How would a cutoff from external capital markets affect output growth? This paper develops and uses an econometric model for Mexico to discuss these questions.

A period of rapid growth and heavy external borrowing ended for Mexico with the debt crisis of mid-1982. This episode taught certain lessons, according to van Wijnbergen: Growth accompanied by unsustainable borrowing could produce later losses that more than offset earlier gains. Mexico's agenda should therefore be renewed growth within the limits of creditworthiness. Fiscal constraint is equally necessary, to keep inflation low and predictable.

As long as internal interest rates remain as high as they are, Mexico's fiscal problems are intractable without renewed access to foreign capital markets. But rollover of half or two-thirds of foreign interest payments, in addition to principal payments, would bring a solution within reach. However, service of the face value of the current debt — without substantial amounts of new money — is incompatible with renewed output growth and thus not really in anyone's interests.

Renewed access to foreign capital markets is imperative both for restoring medium-term growth and for success of the current short-term stabilization effort. But not all forms of access are equally beneficial.

What would be the macroeconomic effects of debt-equity swaps? Swapping public debt for private equity, says van Wijnbergen, would raise the equilibrium inflation rate substantially if they were implemented on a scale large enough to be interesting from a macroeconomic point of view. But without access to foreign capital markets in one form or another, output growth would be compromised.

The increase in external debt implied by renewed access to international capital markets does not really threaten Mexico's creditworthiness. Lending to Mexico would probably increase the expected net repayment, in terms of discounted value, rather than decrease it — increased upfront borrowing notwithstanding.

But much depends on developments in world commodity and capital markets. A 2 percent increase in world interest rates would slow down Mexico's growth an estimated 1 percent.

Therefore, external debt arrangements should include contingency clauses conditional on developments in oil prices and interest rates.

Van Wijnbergen concludes that with foreign financing in place, and Mexico's internal reform program continued and deepened, a cautiously optimistic prognosis seems justified. Growth is likely to begin recovering by the end of 1989, with positive per capita growth thereafter. Although this will require additional funding from abroad, Mexico's debt indicators should decline substantially. If Mexico continues its reform program, investing in Mexico should pay off handsomely.

This paper is a product of the Country Operations Division, Latin America and the Caribbean Country Department II. Please contact Myriam Bailey, room I8-169, extension 31854 (30 pages with charts).

258. Understanding Voluntary Organizations: Guidelines for Donors

L. David Brown and David C. Korten

No responsible donor should undertake to "assist" or "use" nongovernment organizations to help in development unless it is prepared to invest in understanding their nature and distinctive roles. Financial incentives, wrongly applied, can destroy the voluntarism of all but the most strongly self-aware of voluntary organizations.

Voluntary development organizations have demonstrated substantial comparative advantage in developing countries — especially in their ability to innovate, adapt to local conditions, and reach and work with poor and difficult-to-reach populations.

These capabilities are a function of their values, special skills, small size, limited resources, flexibility, and freedom from political constraints. Their weaknesses are a function of many of the same characteristics — particularly their value commitments, small size, independence, and lack of administrative rigidity.

In this paper on what makes nongovernment organizations (NGOs) tick, Brown and Korten suggest that it is equally inappropriate to criticize:

- Voluntary organizations for their limited ability to provide routine services to large populations on a sustained, self-financing basis.

• Government organizations for their limited ability to innovate and adapt responsively to the needs of many different groups.

• Commercial organizations for their limited ability to provide services below cost to persons who cannot afford to pay.

In relating to NGOs, they say, donors should avoid the danger of equating small with simple. Most NGOs are small by donor standards, but are simple neither in their organizational form nor in their development roles. They are particularly complex in the aggregate.

The only thing NGOs have in common as a group is that they are nongovernment and are legally registered as nonprofits. NGOs include market-oriented public service contractors (PSCs), values-driven voluntary organizations (VOs), and member-accountable people's organizations (POs).

Some VOs are strictly voluntary and work with no budget; others have well-paid full-time professional staff. Their commitments span a wide range, and their participants range from saints to scoundrels.

The strongest VOs and POs respond to a good deal more than financial incentives. Their strength lies in the fact that they are not the same as government organizations or businesses. At they same time, they are not immune to financial incentives, which if wrongly applied can destroy the voluntarism of all but the most strongly aware of VOs and POs. The issues are complex, the necessary data elusive (Brown and Korten suggest a research agenda), and the potential for damage substantial.

Donors cannot automatically assume that existing staff experience and training prepare them to play a constructive role in helping NGOs become more effective in their essential roles in national and global development.

This paper is a product of the Public Sector Management and Private Sector Development Division, Country Economics Department. Please contact Zeny Kranzer, room N-9051, extension 37494 (40 pages).

259. Dealing with Debt: The 1930s and the 1980s

Barry Eichengreen and Richard Portes

The debt crisis of the 1930s illustrates the difficulty of global plans for resolving the debt crisis—and underscores the importance of market-based debt-reduction schemes. It highlights the advantages of dispersing foreign obligations among many private investors rather than concentrating them in the hands of financially vulnerable commercial banks.

The debt crisis of the 1980s differed in fundamental ways from that of the 1930s, but the earlier crisis illuminates the current crisis in several ways.

It shows us that bondholders have been no more adept, historically, than the banks at avoiding loans to countries with a record of defaulting. It alerts us to how much creditor-country governments can promote or impede a negotiated resolution of the crisis. It reminds us of the serious obstacles to global plans for resolving the debt crisis. And it underscores the importance of market-based debt-reduction schemes.

Eichengreen and Portes conclude:

• Economic variables alone do not explain the incidence and extent of default. Noneconomic variables, such as proximity to a major military power and international political links, also appear to be important.

• The implications of different debt-management strategies for subsequent macroeconomic performance remain difficult to isolate. In the 1930s as in the 1980s, efforts to maintain debt service tended to be associated with fiscal austerity, import compression, and export subsidies — while the decision to suspend payments was often accompanied by fiscal expansion, monetary reflation, and policies of import-substituting industrialization. Countries that interrupted service on their external debts seemed to recover more quickly from the Great Depression than did countries that avoided default.

• There is little evidence that countries that defaulted in the 1930s suffered reduced access to capital markets after World War II, once they reached settlement agreements with their creditors.

• The readjustment of defaulted debts entailed a protracted negotiation process. The analogy with Chapter 11 bankruptcy proceedings — which permit a clean break with the past — applied no more in the 1930s than it does in the 1980s. In many cases, debt service was interrupted only sporadically, and uncertainty about the magnitude of transfers lingered for decades.

• Government intervention in the 1930s and 1980s differs less in extent than in direction. In recent years, creditor-country governments have exerted continuous pressure on debtors to maintain service on their external debts. In the 1930s and 1940s, creditor-country governments pressured debtors and creditors alike.

• Global schemes to short-circuit the protracted process of bilateral negotiations proved unavailing. Nearly every aspect of the global solutions proposed in the 1980s was first suggested in the 1930s. Ultimately those global schemes foundered on the issue of who should fund them and control their administration.

• Unlike global plans, market-based debt reduction helped to resolve the debt crisis of the 1930s by reducing the debt overhang and eliminating marginal creditors.

This paper, prepared for the conference "Dealing with the Debt Crisis," is a product of the Debt and International Finance Division, International Economics Department Please contact Sheilah King-Watson, room S8-029, extension 31047 (44 pages with charts and tables).

260. Growth, Debt, and Sovereign Risk in a Small, Open Economy

Jagdeep S. Bhandari, Nadeem Ul Haque, and Stephen J. Turnovsky

This paper develops a macroeconomic model for a small, open, developing economy that borrows abroad — to study the dynamic interaction between debt and growth and the impacts of various policies and exogenous shocks on the rate of capital accumulation, the current account, and debt. Adjustment policies that increase productivity and efficient use of capital increase both growth and the stock of external debt — but the new level of debt may be sustainable in the long run.

Most macrodynamic models of economies treat the supply of debt as infinitely elastic. Using a more realistic model, Bhandari, Haque, and Turnovsky have analyzed the dynamic consequences of various kinds of disturbances in a representative small developing economy that can borrow only at a premium and therefore faces an upward-sloping supply of debt. They conclude that:

- An upward shift in the supply of debt — which may be taken to represent an increase in the world interest rate — leads to a long-run decline in external debt, a higher domestic interest rate, less capital stock, and a reduced trade surplus. At some stage, the trade surplus becomes a deficit and more debt is accumulated.
- An increase in the marginal cost of debt (risk premium) — which almost certainly raises the long-run domestic interest rate and lowers the capital stock — may or may not lower long-run external debt as well. It depends on the ratio of the country's external debt to the net credit of its private sector.
- An increase in productivity raises the long-run stock of capital but leaves the level of external debt and the interest rate unchanged in the long run.
- Fiscal expansion (an increase in government spending) has almost no effect in either the short run or the long run. Consumers offset government spending by reducing private consumption. (This conclusion is based on the assumption that employment is fixed.)

Bhandari, Haque, and Turnovsky developed their macroeconomic model for a small, open, developing economy that borrows abroad — to study the dynamic interaction between debt and growth and the impacts of various policies and exogenous shocks on the rate of capital accumulation, the current account, and debt. They used the intertemporal optimizing representative agent model, which incorporates a realistic debt supply schedule and the risk premiums associated with lending to sovereign borrowers, which most models lack.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 39059 (46 pages with tables).

261. Inflation, External Debt, and Financial Sector Reform: A Quantitative Approach to Consistent Fiscal Policy

Sweder van Wijnbergen, Robert Rocha, and Ritu Anand

This new model can be used to derive the financeable fiscal deficit, given inflation targets, or to derive an equilibrium inflation rate for which no fiscal adjustment would be necessary. Here it is used to analyze inflation, external debt, and financial sector reform in Turkey.

This new model uses an integrated framework to assess the consistency between fiscal deficits and other macroeconomic targets, such as output growth and the rate of inflation. It can be used to derive the financeable fiscal deficit, given inflation targets, or to derive an equilibrium inflation rate for which no fiscal adjustment would be necessary.

The "financeable deficit" is the deficit that does not require more financing than is compatible with sustainable external and internal borrowing and existing targets for inflation and output growth.

The model can assess how the relationship between fiscal adjustment and sustained inflation rates are affected by:

- Financial sector reforms that affect base money demand.
- Changes in interest rates paid on foreign and domestic public sector debt.
- Output growth targets.
- Exchange rate policy.

The model was used to analyze the relationship between inflation, external debt, and financial sector reform in Turkey.

The model can also be used to see what happens if the required fiscal adjustment is postponed. The authors explore two scenarios: one in which fiscal adjustment takes place eventually, and one in which the inflation tax is used eventually to close any financing gap.

This paper is a product of the Country Operations Division, Latin America and the Caribbean Country Department II. Please contact Myriam Bailey, room I8-169, extension 31854 (31 pages with tables).

262. Adjustment and External Shocks in Ireland

Dermot McAleese and F. Desmond McCarthy

Long delayed, the Irish adjustment program might well be described as an economic success story — so far. How it comes out depends greatly on the external environment.

The Irish economy has faced adjustment problems similar to those of the highly indebted developing countries.

It enjoyed buoyant growth through the late 1970s, at which time the economy suffered external shocks due to adverse terms of trade and the slowdown in the world economy.

The initial policy response was to rely on additional external borrowing, higher taxes, and increased public spending — in short, to postpone adjustment. This led to external debt problems and unemployment of crisis proportions in the mid-1980s.

Since then, the economy has benefited from favorable external shocks. More important, in early 1987 a newly elected minority government began implementing long-delayed adjustment policies. These efforts were supported by the main opposition parties and the European Community.

External shocks and internal efforts have combined to produce a dramatic turnaround in economic performance.

Government borrowing declined from 13 percent of GNP in 1986 to 3 percent in 1988. A chronic balance of payments deficit of 14 percent of GNP was eliminated. And inflation fell from over 20 percent to 3 percent.

Ireland's economy is not yet out of the woods. The political consensus may weaken. Unemployment remains high. Tax levels are higher than in other EC countries. And the debt overhang leaves Ireland vulnerable to exchange rate fluctuations and a rise in interest rates.

It remains to be seen whether the new policies will be sustained long enough to produce the desired results and rectify the mistakes of the previous decade.

This paper is a product of the Economic Analysis and Prospects Division, International Economics Department. Please contact Milagros Divino, room S7-037, extension 33739 (23 pages with tables).

263. How Has Instability in World Markets Affected Agricultural Export Producers in Developing Countries?

Peter Hazell, Mauricio Jaramillo, and Amy Williamson

World prices are notoriously unstable, and unless farmers can efficiently diffuse the risky returns from export crops, price variability may impede the expansion of agricultural exports in many developing countries.

World prices have been traditionally unstable, but Hazell, Jaramillo, and Williamson find the much-publicized turbulence in world markets in the mid-1970s and early 1980s to have been more a statistical fluke — an unlucky chance sample — than the beginning of any longer term increase in market instability.

Variability in world prices has been almost entirely transmitted to developing countries in the dollar value of their export unit values. However, it has not been fully transmitted to average producer prices. Producer prices have been buffered by real exchange rates, domestic marketing arrangements, and government intervention, but still the level of instability remains sizable — and is the dominant source of instability in crop revenues for most producers.

Unless farmers are able to diffuse the risky returns from export crops, price variability may seriously impede the expansion of agricultural exports in many developing countries.

This paper is a product of the Agricultural Policies Division, Agriculture and Rural Development Department. Please contact Cicely Spooner, room N8-037, extension 30464 (34 pages with charts and tables).

264. Two Irrigation Systems in Colombia: Their Performance and Transfer of Management to Users' Associations

Herve Plusquellec

Two Colombian projects show how local farmers can manage an irrigation system in a developing country if the management and personnel are well-trained and motivated and if the infrastructure is in good condition at the time management is turned over to the farmers.

Two Colombian irrigation projects are studied in this report, the Coello and RUT projects. Management of the RUT project is going to be transfered soon from public managers to farmers. The Coello project has been farmer-managed for about 13 years.

The keys to its success have been:

- The dynamism of the private farming sector and support services in Colombia.
- The high level of farmer training.
- Patterns of land tenure — with farms an average size of 15 hectares.
- Regular maintenance.
- The continuity of medium- and low-level staff, many of whom have been employed 10 to 15 years by the district.
- The availability of communication and transportation facilities.
- Some use of hydraulic engineering in the design of irrigation facilities, to simplify operations and reduce maintenance costs.

This study is part of a series of case studies on the interaction between design and performance of irrigation systems in selected countries. This series of studies is carried out in collaboration with the Bank Operations Evaluation Department and the International Irrigation Management Institute (IIMI), Kandy, Sri Lanka.

This paper is a product of the Agriculture Production and Services Division, Agriculture and Rural Development Department. Please contact Herve Plusquellec, room N-8067, extension 30348 (75 pages with tables).

265. Do African Countries Pay More for Imports? Yes

Alexander J. Yeats

Overpricing iron and steel imports in Africa supports the theory that less competition — in international and domestic markets — leads to higher prices.

Numerous analysts have studied the influence of market structure on performance in domestic markets in industrial countries. Most show that prices and profits are higher, and resources less efficiently allocated, in markets lacking aggressive competition.

Using techniques similar to the earlier studies, Yeats examined the relative prices paid for iron and steel products by selected African and other developing and developed countries.

His findings parallel those of the earlier studies. Typically, international markets that are more concentrated (less competitive), or that rely on fewer trade contacts, bring higher prices.

Analysis of the price premiums that 20 former French colonies paid for iron and steel imports from France shows excess price margins so high as to have policy implications since they seriously drain limited resources.

Over the longer term (1962-87), the African countries paid an average premium of 20 to 30 percent over other importers. The losses from those prices came to about $2 billion by 1987 — a figure roughly equal to the combined long-term debt in 1987 of Burkina Faso, Chad, Mauritius, and the Central African Republic.

This overpricing extends to other (non-French) African countries. Former colonies of Belgium, Portugal, and the United Kingdom still pay premiums of 20 to 30 percent on imports from those three developed countries.

This paper is a product of the International Trade Division, International Economics Department. Please contact Jean Epps, room S8-037, extension 33710 (44 pages with tables).

266. Policy Changes that Encourage Private Business Investment in Colombia

Mansoor Dailami

To sustain expansion of private business investment, Colombia should consider an investment tax credit, frequent forecasting of business variables (to reassure businessmen of the favorable climate for investment), a shift from historical cost accounting to replacement cost accounting, and preferential treatment for small and medium-size firms in the allocation of available capital.

Private business investment has expanded remarkably in Colombia's recent economic recovery. Sustained expansion

of this investment is considered crucial to continued economic growth and increases in production.

Having analyzed demand, the cost of capital, and the availability and allocation of investable funds, Dailami concludes the following:

• Motivating firms to expand capacity is a key requirement for continued expansion. Many firms are already operating at high capacity utilization rates. An investment tax credit designed to lower the effective price of capital goods would help to target investment expansion and hence would be desirable.

• Frequent forecasting of such variables as GDP, interest and exchange rates, and credit and monetary aggregates, would tend to improve the climate for investment by enabling the private sector to make informed decisions.

• The real (marginal) cost of capital to the nonfinancial corporate sector is high in Colombia: currently about 16 percent. Policy efforts that induce corporations to substitute equity for debt financing should lead to a more balanced corporate capital structure and possibly a lower overall cost of capital. The elimination of dividend income taxes as part of the 1986 tax reform eliminated double taxation of capital and thus helped reduce the cost of equity financing. On the other hand, it prompted shareholders to pressure corporate management to distribute more dividends — which limits a corporation's ability to finance its investments internally.

• The cost of capital could also be reduced by shifting the tax treatment of depreciation allowances away from historical cost accounting system toward a replacement cost accounting system.

• High inflation and low savings rates keep the prevailing lending rates high in Colombia — and it is generally easier for larger firms to get capital than for small and medium-size firms. There are at least two reasons why small and medium-size firms should get preferential treatment in allocation of available capital: (1) they tend to be concentrated in relatively more labor-intensive activities and sectors, and (2) their existence and survival are necessary to guard against increased industrial monopolies.

This paper is a product of the Financial Policy and Systems Division, Country Economics Department. Please contact Maria Raggambi, room N9-031, extension 37657 (53 pages with charts and tables).

267. Issues in Income Tax Reform in Developing Countries

Cheryl W. Gray

Revenue, efficiency, and equity should be the three main goals of income tax reform. Add to those enforceability — which furthers the other three goals simultaneously.

Of all taxes, income taxes are the most difficult to implement. Developing countries are usually able to generate large amounts of income tax revenue only from large corporations or foreign investments. They are rarely effective in taxing wealthy individuals or small or medium-size businesses.

How can income taxes be made more effective in developing countries?

Using recent tax reforms in Jamaica, Indonesia, and elsewhere as examples, Gray discusses the pros and cons of specific tax reform elements and makes the following suggestions:

• Limit the distinctions between business and individual income taxes. This has the advantage of simplicity and avoids an abrupt shift in tax liability on incorporation.

• As a general principle, broaden the tax base while keeping tax rates low to moderate. Avoid special tax incentives when possible.

• Tax the full range of income under a country's jurisdiction — taxing residents on their worldwide income (with a foreign tax credit) and nonresidents on all income earned in the country. This helps to close a wide loophole for tax avoidance.

• Include all types of interest income in the tax base, including interest on bank deposits and government bonds.

• Fully tax capital gains (particularly under a flat-rate or nearly flat-rate income tax).

• Deal with the thorny problem of fringe benefits (which go disproportionately to the better-off employees) by allowing as deductions for the provider only those benefits for which the recipients pay tax.

• Require that all nonprofit organizations file tax returns, and exempt only certain types of their income from taxation, to guard against abuse.

• Develop "presumptive" methods of assessing taxes for groups (small firms and the self-employed) that are difficult to tax.

• Carefully limit deductible expenses for firms to the necessary costs of earning income.

• Simplify depreciation rules by avoiding "fine tuning" of categories or rates. As an alternative, allow full writeoff ("expensing") of capital investment in the first year, but disallow the deduction of interest paid on loans to finance such investment.

• Collect as much income tax as possible on both labor and capital income through withholding and current payments (P.A.Y.E.), but keep the procedures simple.

• Enforce tax compliance by charging reasonable interest and penalties on late payments. Seizure and auction of property and/or criminal penalties may also be necessary to enforce compliance. However, these enforcement tools need to be counterbalanced by fair avenues for taxpayer objections and appeals.

This paper is a product of the Office of the Vice President, Development Economics. Please contact Norma Campbell, room S9-049, extension 33769 (41 pages).

268. Shortcomings in the Market for Developing Country Debt

John Wakeman-Linn

Creditors and highly indebted countries alike would benefit from a credit market in which penalties for default were heavier or more certain, in which multinational and international organizations were used to improve the flow of information about the debtor countries to possible creditors, and in which methods were designed to increase the precommitment of funds.

It is important to deal with the immediate debt crisis in ways that do not harm the credit market, but efforts should be made to improve that market. The two chief problems limiting the market for developing country credit are unenforceable contracts and asymmetric information, according to Wakeman-Linn.

Instead of undertaking investments

that could pay rates of return greater than the opportunity cost of their funds, creditors are financing investments in projects with lower rates of return but enforceable contracts.

Creditors and debtor countries alike would benefit if some method could be found to make loan contracts enforceable and to increase the flow (and quality) of information about the developing countries' ability and willingness to repay loans (including their susceptibility to penalties) and about how they intend to use the loan proceeds.

Short of creating an international court whose judgments are supported by an international army — which is highly unlikely — there is no way to make contracts in this market strictly enforceable. It should be possible, however, to improve incentives for developing countries to repay future loans.

Specifically, Wakeman-Linn recommends:

- Finding ways to increase the penalties for default, or making the penalties more certain. This would increase the debtor countries' willingness to pay, which would benefit all parties.
- Studying how to use existing multinational and international organizations to increase the flow of relevant information to potential creditors.
- Increasing precommitment of funds through increased penalties for default and other approaches. IMF contingency programs are already used extensively to establish some form of precommitment. Further use of international organizations along these lines may be possible. Mutually beneficial contracts are not currently possible because precommitment is not enforceable.

This paper is a product of the Debt and International Finance Division, International Economics Department. Please contact Sheilah King-Watson, room S8-029, extension 31047 (42 pages).

269. Women in Development: Issues for Economic and Sector Analysis

Women in Development Division

Women respond well to incentives but in many parts of the developing world they are not equipped to respond: limited in human capital development, they also lack access to factor markets. Increasing their capacity to respond to incentives has major implications for the economy, population, and environment.

This set of recommendations on women in development highlights considerations and key findings that can be used to identify issues and develop action plans concerning women in economic and sector analysis and project design. Among those findings:

Women already contribute far more economically than is usually recognized. Women account for over half the food produced in the developing world and provide one-fourth of the developing world's industrial labor. Their contribution is undervalued partially because women's work often "does not count," and partly because of the nature of home-based work. Their productivity and capacity to work is often constrained by culture and tradition, which often keeps women homebound, while men go into the "outside" world.

Expanding women's economic choices — by improving technologies or increasing their options for cottage industry or outside work — can increase output and efficiency by enabling women to find their true comparative advantage. Improving women's education provides much the same economic return as improving men's education — and tends to lead to smaller, healthier families.

Women tend to be disproportionately represented among the poor, so economic adjustment programs should deliberately take into consideration women's special needs and constraints. For example, women often have trouble traveling far from home so they especially need local roads or paths, better water supplies, simple forms of transport — and informational infrastructure (such as radios) that facilitates education and training.

The same set of prices on agricultural products may have a different incentive effect on men and women — who have different degrees of control over income from different products. When women's productive capacity is seriously constrained, it is important not simply to "get the prices right" — to establish appropriate incentives — but also to improve their capacity to respond, through investment programs and policy changes.

Labor markets are often segmented by gender, with women typically concentrated in fewer, more traditional, less remunerative lines of work. Investments in human capital for women have a high payoff — but women and girls often get less than men or boys, especially when the costs to families of education, training, health care, and even food are high.

Improving the education of women is probably the easiest program to target, but key health and family planning needs include stronger prenatal screening and care, help with delivery, improved family planning, and a reduction of anemia. The most effective measures for reducing birth rates include expanded earning opportunities and education for women, combined with family planning and health care.

Improving opportunities for women remains a sensitive topic — a leadership issue — in many places. Through policy dialogue and lending, institutions like the World Bank can help highlight the costs of neglecting women and the gains to development from more vigorous efforts to include them.

This paper is a product of the Women in Development Division, Population and Human Resources Department. Please contact Judy Lai, room S9-125, extension 33753 (95 pages with charts and tables).

270. Fuelwood Stumpage: Financing Renewable Energy for the World's Other Half

Keith Openshaw and Charles Feinstein

By collecting an adequate stumpage fee for woodfuels grown on public lands, developing country governments could finance the investments needed to maintain a regular fuelwood supply and to prevent long-term environmental damage.

In many developing countries, households rely heavily on woodfuels (firewood and charcoal) as their main source of energy for cooking and heating. The internal trade in woodfuels is often sizable.

In Africa alone the annual value of *traded* fuelwood and charcoal is probably more than US$2 billion — and the annual total "value" of wood products (including self-collected fuelwood) may be about $6 billion to $8 billion.

Yet few governments are aware of wood-fuels' importance — and few re-

coup more than a small fraction of the value of raw wood material grown on public lands.

African governments now collect stumpage fees of $30 million a year for fuelwood and charcoalwood, or only about 2 percent of the selling price of the finished products.

By charging an adequate fee for these wood resources, Openshaw and Feinstein argue, woodfuels production and consumption can be made more efficient. In addition, governments would be better able to finance the investments in their forest sector that are needed to maintain a regular fuelwood supply and to prevent long-term environmental damage.

Openshaw and Feinstein outline the methods energy planners can use to estimate fuelwood values and discuss several problems that arise in assessing and collecting fuelwood stumpage fees.

This paper is a product of the Energy Strategy, Management, and Assessment Division, Industry and Energy Department. Please contact James Mullan, room S4-029, extension 33250 (51 pages with charts and tables).

271. How Industry-Labor Relations and Government Policies Affect Senegal's Economic Performance

Katherine Terrell and Jan Svejnar

Renewed growth in Senegal calls for more worker training, fewer government regulations, less trade protection, and more cooperation between labor and industry — for example, by linking wage supplements to performance indicators.

Senegal is in the grip of a long-term economic crisis. Senegalese industry suffers from a highly adversarial system of industrial and labor relations, excessive government regulations in some areas and inadequate government support in others, and many misperceptions about the ethnically diverse labor force and enterprise ownership. Terrell and Svejnar conclude that:

- Senegal needs to adopt a social compact that would replace the current adversarial system with more cooperation among labor, industry, and the government. Linking a part of worker compensation (for example, the wage supplement) to specific individual or group performance indicators would increase worker motivation.
- Current regulations contribute to the underuse of labor. Relaxing regulations about (paid) hours of work, layoffs, and the use of temporary (daily) workers would, along with transfer payments, improve the welfare of all parties.
- Some form of collective action or government intervention may be needed to provide the training that firms do not provide for fear of later being raided by other firms.
- No particular type of ownership has been linked with higher productivity, so policies geared toward changing enterprise ownership or providing preferential treatment toward certain types of ownership should be based on a careful examination of specific cases, not general rules (such as privatization, Senegalization, or preferential treatment of foreign capital).
- Protection generates inefficiency. This inefficiency is not an economic rent reflected in higher wages. Recent policies aimed at reducing protection should improve productivity.
- Popular hypothesis is that the more firms in developing countries are exposed to world markets, the more productive they become. Terrell and Svejnar found that the extent of an enterprise's export orientation had no bearing on its productive efficiency.
- The unwillingness of firms to invest in physical and human capital — combined with labor market and other government regulations — seems to have contributed to Senegal's decline in total factor productivity.
- The average contribution of non-Africans has been high, but their gradual exodus appears to have benefited Senegal's economy.
- Special consideration should be given to retraining displaced workers within existing firms rather than outside of them, as the return (in terms of earnings) is higher on firm-specific experience than on general experience.
- The burdens of rising unemployment and limited hiring of young workers are borne mostly by older industrial workers who must support ever larger extended families and would thus benefit from economic growth. Output growth would also probably increase workers' earnings.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, Room N11-059, extension 39059 (124 pages with tables).

272. Women's Changing Participation in the Labor Force: A World Perspective

T. Paul Schultz

Research has rarely tested the proposition that women have lost more than men when low-income countries introduce minimum wage legislation and certain other labor market regulations that raise the cost of labor to firms compared with families. But such interventions in the labor market may slow women's transition from nonmarket and family work to employment by firms. And that may affect the rate and structure of economic growth.

This paper describes how the composition of the labor force changes with economic development. It considers recent trends in women's labor force participation and the type of jobs held in various sectors as national per capita income increases.

What policies affect the relative competitiveness of families and firms — and the extent to which women work for one or the other? Women are more likely to work in the family or informal labor market if the labor costs to firms exceed the opportunity costs of female labor to family enterprises. Firms are at a relative disadvantage compared with families in the employment of less experienced and less skilled labor, presumably because their labor costs are affected by such regulations as minimum wage legislation, social insurance premiums, limits on firing, costs of monitoring productivity, and rules about severance pay. The minimum-wage two-sector model predicts that raising effective minimum wage levels would increase the share of families (or the uncovered sector) in the labor force.

There are statistically significant relationships between income per adult in a country and the share of wage earners in most sectors of the economy — particularly in manufacturing, commerce, services, transportation, and utilities. As

real income per adult increases, the overall fraction of wage earners increases, except in the case of women's entry into wage employment in agriculture.

In Asia and Africa, an increase in the proportion of employment in firms within the major sectors accounts for most of the rapid growth in women's overall share of wage employment. In Latin America, however, growth in the proportion of firm employment has been slower than elsewhere, and share of women in wage employment has even fallen overall in several countries. This is consistent with the greater labor market distortions in these countries of Latin America during the 1960s and 1970s — which hindered more firm employment of lower paid workers. Latin American women were progressively less likely to enter the labor force in manufacturing, a sector that absorbs many women as wage workers in other regions.

Enforcement and coverage of minimum wage legislation are difficult to measure, but it appears that women (and to a lesser extent men) participate less in the overall labor force when minimum wages are higher as a proportion of GNP per adult.

It is not unreasonable to assume that women have lost more than men from market regulations and distortions, but little research has addressed this proposition. If it is true, however, these interventions in the labor market may be responsible for slowing women's transition from nonmarket and family work to firm employment. This in turn may affect the rate and structure of economic growth.

This paper is a product of the Women in Development Division, Population and Human Resources Department. Please contact Maria Abundo, room S9-125, extension 36820 (47 pages with tables).

273. Population, Health, and Nutrition: FY88 Annual Sector Review

Population and Human Resources Department

PHN lending increased in FY88, despite a shortfall of PHN staff resources. Lending for health predominated, but population lending accounted for 27 percent of the total. Bank leaders should continue emphasizing population concerns. The Bank should also consider more population specialists and more training of senior economists and managers on the subject.

PHN lending rebounded in FY88 to $304.9 million for eight projects, a 50 percent increase in volume over the previous five-year average.

Lending for health predominated, while population lending (featured in five of the eight projects) accounted for 27 percent of the total. Interest in nutrition increased, but nutrition lending received little emphasis (except in connection with structural adjustment).

Important trends included increased attention to project "software," continued support for decentralization of health systems, more efforts to involve the private sector in delivering PHN services, more emphasis on health costs and financing, development of new ways to reach clients at the periphery, and more emphasis on focused projects.

Supervision coefficients for PHN projects declined from 16.5 staffweeks in FY87 to 13 in FY88. Only seven of 40 projects had major problems — principally with technical assistance, lack of counterpart funds, and inadequate managerial capacity.

The recommendations of the review are that the Bank should use more specialized technical personnel (usually local consultants) on missions, and more local consultants in sector work; place more Bank personnel in the field or increase field office responsibility for supervision; build monitoring into the projects and provide training for it; and set project supervision coefficients at appropriate levels (perhaps 15 staffweeks).

Sector work for FY88 was twice that for FY87, half of it for the Africa region. Sector work focused mainly on internal efficiency, costs and financing, and management capacity.

Population lending has accounted for about one-third of PHN lending for three years, but more should be done. Bank work in population is hampered by relatively weak demand for population projects, the shortage of Bank specialists on the subject, and the ready availability of grant funds from other donors.

The Bank should capitalize on its comparative advantage in affecting population policy and programs.

If lending to PHN sectors is to increase from its current low level of 2 to 3 percent of Bank lending to 5 percent or more, current staff resources are inadequate. There is a shortfall in PHN staff resources of about 20 staffyears (1.3 staffyears per PHR division), to meet the targeted level of 12 to 14 projects and $500 million a year in PHN lending.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091 (56 pages with tables).

274. Efficiency and Equity in Social Spending: How and Why Governments Misbehave

Nancy Birdsall and Estelle James

In most countries it is easy to identify reallocations of public spending for social programs that would improve efficiency and simultaneously improve the distribution of income and better serve the poor. The authors suggest why these reallocations are difficult but not impossible to bring about.

A hot issue in development economics is how much to rely on user charges and private organizations to provide such social services as health and education. Most analysts arguing on either side of the issue assume that any policy decisions involve a tradeoff between equity and efficiency.

Birdsall and James argue that in many settings in the developing world that assumption is incorrect. In many countries, they argue, the current situation is inefficient partly because it is inequitable; more equitable social spending would be more efficient in reducing mortality, for example, or in maximizing social returns to spending on education.

The model they use assumes that the degree of efficiency and redistribution is endogenous, so the real problem is: How does one break into the chain of causes and bring about a new, more efficient and equitable equilibrium, when this was apparently not in the interest of the main actors or it would already have happened?

If well-defined groups know they are "losers," they are more likely to mobilize and foment opposition to existing poli-

cies — so the "gainers" benefit from perpetuating a "veil of ignorance." Most commonly, some private goods may be publicly provided and oversupplied because they benefit a politically influential group in a nonobvious way — for example, by oversubsidizing colleges and undersubsidizing education at lower levels.

Birdsall and James argue for a policy that concentrates government funding on public goods and encourages the market to do what it does best: fund and produce private goods. With public spending concentrated on services that yield public goods, the poor automatically benefit even if they are not targeted, and since the rich also benefit they may be reluctant to oppose these programs, even if they prefer government spending on private services from which they benefit more.

They recommend ten political strategies for reallocating government funds in the public sector in a way that maximizes the benefits of targeting, reduces costs, and minimizes resistance to change and the withdrawal of the middle and upper classes' political and tax support.

This paper — a product of the Population and Human Resources Operations Division, Country Department I, Latin America and the Caribbean Regional Office, in cooperation with the Population and Human Resources Department — is part of a larger effort in PRE to address issues in the economic management of the social sectors in conjunction with operations. Please contact Nancy Birdsall, room I7-019, extension 31822 (38 pages).

275. Revised Estimates and Projections of International Migration: 1980-2000

Fred Arnold

Here are country-by-country recommendations for revising the World Bank's previous estimates and projections of net international migration for the period 1980-2000, for use in the Bank's World Population Projections. *Net migration figures for most major sending and receiving countries should be revised upward.*

Arnold reviews the World Bank's previous estimates and projections of international migration through the year 2000 and recommends revised figures — on the basis of recent information about immigration and emigration. Net international migration figures should be revised upward for most of the sending and receiving countries.

In the early 1980s, net international migration to all receiving countries totaled more than 1.2 million persons a year. Arnold assumes this figure to gradually decrease to fewer than 900,000 persons a year in the period 1995-2000. The current male dominance of international migration flows is also expected to decrease gradually over time.

In the 1980s, the United States was the net recipient of about as many immigrants as all the rest of the countries in the world together. Arnold assumes that the importance of the United States as a prime destination of immigrants will increase substantially in the 1990s. Nine other countries were net recipients of more than 20,000 international migrants a year in the 1980s. The major destination countries include Australia, Saudi Arabia, Canada, and Côte d'Ivoire.

Mexico is by far the largest net exporter of international migrants, and its dominance in this area is expected to increase in the 1990s. Most of the other major source countries for migration are in Asia. The United Kingdom is the only European country with net emigration of more than 15,000 persons a year, although Poland, Ireland, and Portugal also have substantial net outflows.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091 (88 pages with charts and tables).

276. Improving Rural Wages in India

Shahidur R. Khandker

Do public programs and infrastructure to promote agricultural growth improve real agricultural wages and thus reduce rural poverty? Rural electrification, roads, and banks do — because they increase nonfarm employment. Educational infrastructure, public irrigation, and regulation of markets do not, although they raise agricultural output.

Do public programs and infrastructure that promote agricultural growth improve real agricultural wages and thus reduce rural poverty?

That depends, says Khandker, basing his conclusions on district-level panel data from India.

Whether public policies increase real agricultural wages depends on whether they promote rural nonfarm employment, to absorb the growing labor force.

For example, although educational infrastructure, public irrigation, and regulation of markets raise agricultural output, they depress real agricultural wages because they do not increase nonfarm employment.

In contrast, rural electrification, roads, and banks can increase real agricultural wages, because they increase nonfarm employment.

Rural financial institutions and electrification reallocate labor from agriculture to rural nonfarm activities, however, while roads promote both farm and nonfarm employment.

This paper is a product of the Women in Development Division, Population and Human Resources Department. Please contact Belinda Smith, room S9-125, extension 35108 (25 pages with tables).

277. The Effect of Formal Credit on Output and Employment in Rural India

Shahidur R. Khandker and
Hans P. Binswanger

Improving credit in rural India greatly improves rural nonfarm employment and output. It has only a modest effect on crop output — more because of increased use of fertilizer than because of capital investments, which merely substitute for farm labor.

Using a two-stage model to distinguish demand for formal credit from supply, Khandker and Binswanger conclude that increased formal credit has a positive effect on crop production, on the use of fertilizer, and on private investment in machines and livestock.

The effect of expanded credit on crop output is small, however. Crop output

improves more because of increased use of fertilizer than because of capital investments, which merely substitute for labor.

Credit decreases farm employment, yet increases the real agricultural wage because of its overwhelmingly positive effect on rural nonfarm employment.

In short, improved financial intermediation in rural India greatly improves rural nonfarm employment and output, has a modest effect on crop output, and tends to substitute capital investment for farm labor.

This paper is a product of the Women in Development Division, Population and Human Resources Department. Please contact Belinda Smith, room S9-125, extension 35108 (28 pages with tables).

278. Inflation and the Company Tax Base: Methods to Minimize Inflation-induced Distortions

Anand Rajaram

Conceptually, the most accurate way to correct for inflation in reporting taxable income is to index the balance sheet and derive income as a residual. The experience of Argentina, Brazil, and Chile indicates that this method is workable. Whether it is practical for other countries depends on the administrative and bookkeeping limitations of each case.

Inflation causes conventionally reported income to differ from real economic income because standard accounting procedures are based on the assumption of price stability. For example, depreciation deductions based on the historic cost of assets cause a firm's reported income to exceed real economic income. Allowing firms to deduct nominal interest expense has the opposite effect. The valuation of inventory items, capital gain, and foreign exchange gain is similarly distorted.

Because of this mismeasurement of economic income, a tax on reported income may distort economic decisions and generate undesirable distributional effects. Marginal effective tax rates, for example, may differ across sectors, industries, and even firms — making resource allocation less efficient.

The paper discusses three alternatives for avoiding these effects:

1. Indexing items in the income statement.
2. Indexing the balance sheet and deriving the income as a residual.
3. Redefining the tax base in terms of cash flow rather than income.

The option of partial indexation (indexation of a few selected items on the income statement) is shown, through simulations, to be an incomplete and often more distorting "correction" for inflation.

The paper shows, with the help of numerical examples, that the most accurate method to correct for inflation-induced mismeasurement of income is to use alternative 2 — to index the balance sheet and derive the income as a residual. Experience with this approach in Argentina, Brazil, and Chile — three countries that have had high rates of inflation — indicates that the method is administratively practical.

But because this method of inflation adjustment is fairly demanding in terms of the general level of bookkeeping and accounting skills in the economy, its use or recommendation for any country should be guided by a realistic appraisal of those skills. It should be noted that countries like Chile, which employ such comprehensive methods today, arrived at that point after various simpler schemes were gradually modified over several years.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699 (70 pages with charts and tables).

279. What Determines the Rate of Growth and Technological Change?

Paul M. Romer

Policies to encourage more open trading and accumulation of human capital may be as important to growth and technological change as additional foreign lending.

After analyzing cross-country correlations between economic growth and other variables, Romer concludes the following:

There is little direct support for the idea that exogenous increases in the savings rate by themselves cause increases in the rate of technological change. Apparently exogenous increases in the rate of savings and investment seem to be associated with lower rates of return to capital.

Increased openness to international trade speeds up growth. So does an increase in the number of scientists and engineers. Increased investment in physical capital alone does not.

The rate of technological change, and therefore the marginal product of capital, seem to increase when there are more scientists and engineers, as one would expect.

Increased openness to international trade also seems to increase the rate of technological change. Countries more open to trade have a higher level of investment and capital growth — which is not associated with a fall in the marginal product of capital. Countries that become more integrated with world markets seem to have a higher marginal product of capital.

Increases in capital investment associated with a higher per capita GDP are associated with a fall in the marginal product of capital. Increases in capital investment associated with increases in trade are not.

This suggests that policies to encourage more open trading may be as important to growth as additional foreign lending — especially in their cumulative effects — and at the same time enhance the efficient use of foreign loans.

Method: Romer summarizes known correlations between growth in per capita income over time and other economic variables, particularly those related to investment and international trade. He presents some regression evidence that extends the existing correlations. But his main contribution is to interpret these correlations — particularly correlations between the rates of technological change and capital accumulation — in the context of an aggregate theory of growth that explicitly models technological change.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 39059 (45 pages with tables).

280. Adjustment Policies in East Asia

Bela Balassa

Policy differences explain why East Asia's newly industrializing economies outperformed Latin America's in per capita income. But it is inappropriate for Korea and Taiwan to run current account surpluses when they can get higher returns from domestic investment than from foreign securities or gold.

Having passed through the first stage of import substitution, which involved the replacement of the imports of nondurable consumer goods and their inputs by domestic production, two East Asian newly industrialized economies — Korea and Taiwan — embarked on an outward oriented development strategy that gave a boost to manufactured exports and economic growth. This contrasts with the policies applied by three Latin American newly industrializing countries, Argentina, Brazil, and Mexico, which passed to the second stage of import substitution that concerned consumer and producer durables and intermediate products and reformed their policies only after the adverse effects of these policies became apparent.

The two East Asian economies continued with outward-oriented policies during the period of the two oil crises and limited reliance on external borrowing. In turn, the three Latin American economies again turned inward and placed considerable reliance on foreign loans. These policy differences by and large continued after the debt crisis, except that the three Latin American economies had to apply deflationary measures in view of the unavailability of external capital.

Differences in the policies applied explain the different economic performance of the East Asian and the Latin American economies, with the former much surpassing the latter in per capita incomes. At the same time, it is inappropriate for Korea and Taiwan to run current account surpluses when they can obtain higher returns on domestically invested capital than on capital invested in foreign securities and gold.

This paper is a product of the Office of the Vice President, Development Economics. Please contact Norma Campbell, room S9-047, extension 33769 (26 pages with tables).

281. Tariff Policy and Taxation in Developing Countries

Bela Balassa

In moving toward an ideal policy scheme, value-added taxes and excises on luxury commodities and on commodities that create negative consumption externalities can be established instantaneously while a tariff reform will take time. At the same time, tariffs should be reformed according to a predetermined timetable, made public in advance, that permits producers to adjust.

Developing countries are well advised to adopt appropriate tariff and tax policies. An ideal scheme of such policies would include the following:

- Export taxes should be set on the basis of the long run elasticity of foreign demand in the case of commodities in which the country has market power and at a rate to ensure that exportable production equals the quota when export quotas are applied.
- Import tariffs should be set at equal rates on all manufactured goods, complemented by taxes on their primary inputs, to ensure equal effective rates of protection at desirable levels, preferably not exceeding 10 percent. Primary activities and exports in general should be exempted from tariffs on their inputs.
- Value-added taxes should be levied on all commodities at equal rates, supplemented by excise taxes on luxury commodities and on commodities that create negative consumption externalities.

In moving toward an ideal policy scheme, value-added taxes and excises on luxury commodities and on commodities that create negative consumption externalities can be established instantaneously while a tariff reform will take time. At the same time, tariffs should be reformed according to a predetermined timetable, made public in advance, that permits producers to adjust.

This paper is a product of the Office of the Vice President, Development Economics. Please contact Norma Campbell, room S9-047, extension 33769 (21 pages).

282. EMENA Manufactured Exports and EEC Trade Policy

Bela Balassa

EMENA's trade performance in the EEC has been far from uniform. Reforming countries (Turkey and Morocco) have increased their market share — socialist countries have seen theirs fall.

This paper has examined the implications for EMENA of EEC trade policy. Following an analysis of EEC trade agreements with EMENA countries, the paper has shown that EMENA's trade performance in the EEC has been far from uniform. While Turkey and Morocco, countries that carried out economic reforms, increased their market share to a considerable extent, the European socialist countries and Iran lost market shares.

As to the future, it has been suggested that the enlargement of the Common Market may have a slightly negative effect on EMENA countries having association or cooperation agreements with the EEC and a more pronounced negative effect on countries that do not have such agreements. In turn, the completion of the internal market of the EEC by 1992 would favor products from the member countries over products from the outside, including EMENA countries. However, EMENA countries would benefit from the acceleration of economic growth in the EEC upon completion of the Europe-1992 program.

The paper has further indicated that the comparative advantage of the EMENA countries lies in labor intensive products, with the low-wage countries having good prospects in unskilled-labor intensive products and the socialist EMENA countries in skill-intensive products. At the same time, the investigation of export prospects would have to be carried further by providing greater product and country detail.

This paper is a product of the Office of the Vice President, Development Economics. Please contact Norma Campbell, room S9-047, extension 33769 (37 pages with tables).

283. Experiences of Financial Distress in Thailand

Tipsuda Sundaravej and
Prasarn Trairatvorakul

Rehabilitating the financial institutions that were failing in 1984 appears to have cost the Thai government no more than closing them down and paying off depositors would have cost. In a situation like this, authorities must make a tradeoff between preserving the financial system's well-being and being able to hold managers of failed institutions accountable for their failure.

Between 1983 and 1984, 15 Thai finance companies — with Baht 9.8 billion in assets — went under, and many others were distressed. Authorities were faced with the choice of rescuing the troubled institutions or closing them down. Closing an institution down is often less costly, financially, than rescuing it — and the most effective way to penalize shareholders and management. The risk in closing institutions is that you might set off systemwide panic that hurts both the domestic market and the country's ability to attract foreign funds.

Although some companies failed to recover, the measures Thai authorities took succeeded in restoring public confidence in the system. Deposits in finance companies, which had dropped to their lowest levels in 1984, gradually rose back to normal after the government's intervention — despite problems with inexperienced management, high overhead costs, and the refusal of many former managers of these companies to cooperate with the authorities.

How did the authorities succeed in restoring public confidence? First, in choosing to rehabilitate many financial institutions, the government demonstrated its commitment to preserving financial institutions as much as possible. Second, changes in the Bank of Thailand Act and the regulations governing commercial banks and finance companies gave the authorities more power to handle problem institutions and prevent further crises.

Rehabilitating these institutions appears to have cost no more than closing them down and paying off depositors would have cost. The April 4, 1984 rehabilitation scheme cost Baht 8 billion. Had these companies not been rescued, the costs of a promissory note exchange, net of a partial recovery from liquidation of assets, would have cost close to Baht 8 billion. And rehabilitation allowed business concerns to continue borrowing from these institutions, strengthened the financial system, and may have allowed shares held by authorities to appreciate.

Of course, the rescue option meant using government facilities and personnel. And it is more difficult to prosecute former managers under a rehabilitation scheme than if the institution closes down. The dilemma authorities face in a situation like this is the tradeoff they must make between preserving the financial system's well-being and preventing moral hazard.

This paper, a background paper for the 1989 World Development Report, is a product of the Office of the Vice President, Development Economics. Please contact the World Development Report office, room S13-060, extension 31393 (28 pages).

284. The Role of Groups and Credit Cooperatives in Rural Lending

Monika Huppi and Gershon Feder

Borrowing groups and credit cooperatives are potential channels through which small-scale farmers can improve their access to credit.

Small farmers often have no credit records and a mixed reputation for repayment. Processing and collection costs of loans made to small farmers are high relative to the amount lent, so that it is hardly surprising that rural lenders often prefer to channel their funds to larger farmers.

Lending groups and credit cooperatives have been ascribed the potential to reach small farmers with affordable credit because the processing of one large loan rather than numerous small loans may allow for savings in administrative costs. As these lending arrangements entail some form of joint liability, they have also been expected to reduce the risks of loan default.

In practice, the record of group lending schemes and credit cooperatives has been mixed, although unfavorable experiences have mostly been due to shortcomings in implementation and complementary activities rather than inadequacy of the approaches themselves.

Some of the factors crucial for successful group lending are:

- Homogeneous borrowing groups that are jointly liable and assume some managerial and supervisory responsibilities. Mandatory joint liability has only a positive effect on repayments as long as borrowers have strong reason to believe that the majority of their peers will also repay.
- Establishing a common bond other than credit, such as mandatory deposits that will only be reimbursed upon full repayment, enhances loan repayment at the same time as it introduces savings mobilization.
- Denying access to future credit to all group members in the case of default by any member is the most effective and least costly way of enforcing joint liability. But this only works as long as the lending institution can continue to provide clients with favorable and timely credit services.

Important factors for successful outcomes of credit cooperatives include:

- Bottom-up institutional development and training at the grass roots as well as all management level.
- Savings mobilization by credit cooperatives renders them financially less dependent on outside sources and enhances borrowers incentives to repay.
- Credit cooperatives shouldn't rush to expand their activities beyond financial intermediation before strong institutional and managerial capabilities exist.

This paper is a product of the Agricultural Policies Division, Agriculture and Rural Development Department. Please contact Cicely Spooner, room N8-039, extension 30464 (55 pages).

285. Enhancing the Contribution of Land Reform to Mexican Agricultural Development

John Richard Heath

Radical change in the land reform program is not in order in Mexico, but certain institutional changes would improve agricultural growth on farmlands governed by land reform.

The *ejido* is a rural community on which the Mexican government has conferred land and water resources. *Ejido* members (*ejidatarios*) can use the land but are prevented by agrarian reform law from selling it. The *ejido* seems to be a more or less fixed element in the Mexican rural economy.

Heath found no conclusive evidence that individual *ejidos* are significantly less productive than private farms, and hence it seems unlikely that privatization of *ejidos* would greatly improve agricultural growth. At the margin, however, *ejidatarios* face more constraints on productivity growth than private farmers.

Heath recommends the following piecemeal improvements to the existing structure:

- Accelerate the drive to give *ejidatarios* titles to their parcels of land.
- Grant *ejidatarios* titles irrespective of the size of their parcels.
- Simplify and clarify restrictions for private farmers on holding size and land use.
- End restrictions on renting or sharecropping by *ejidatarios*.
- Allow *ejidatarios* to sell their land parcels to other members of their *ejido* (not outsiders).
- Improve management of communal lands.
- Extend credit directly to individual *ejidatarios*, on the basis of their creditworthiness.
- Cease having the whole *ejido* bear the burden of loan default by one or more *ejidatarios*.
- Provide credit to *ejidatarios* wholly in cash and allow them to decide what inputs to purchase and what crops to plant.

This paper — a joint product of the Agricultural Policy Division, Agriculture and Rural Development Department, and the Agriculture Operations Division, Latin America and the Caribbean Regional Office, Country Department II — assesses the institutional aspects of agricultural development. Reforms in land and credit policies, which are the focus of this effort, can have a major impact on both equity and agricultural growth. Please contact Cicely Spooner, room N8-039, extension 30464 (85 pages with tables).

286. Poverty and Undernutrition in Indonesia during the 1980s

Martin Ravallion and Monika Huppi

Because of sustained growth in average real consumption, a modest improvement in overall equity, and gains to the rural sector — particularly the poorest of the poor — poverty and undernutrition continued to be alleviated during Indonesia's recent period of macroeconomic adjustment.

Indonesia adjusted rapidly to sharply falling external terms of trade during the 1980s — using a classic package of currency devaluation, budgetary and monetary restraint, and regulatory relaxation.

How did the country fare in its efforts to alleviate poverty and undernutrition during that period?

It is difficult to measure poverty at one point in time — much less compare poverty in two periods — but Ravallion and Huppi answer that question using two large, comparable sets of household data for 1984 and 1987. They tested a wide range of possible poverty lines and poverty measures — and the sensitivity of key results to many of the underlying assumptions about poverty.

They found robust evidence that poverty continued to decline during the period.

Although caloric intake data are far from ideal, they found evidence that the extent of undernutrition also fell significantly. For a caloric intake level which 37 percent of the population failed to attain in 1984, they found that only 27 percent of the population failed to attain it in 1987.

Why was this so? Gains to the rural sector contributed greatly to the alleviation of poverty. Gains to the urban sector and population shifts from the rural to the urban sector also helped but were quantitatively less important than direct gains to the rural poor.

Increases in average real consumption and an improvement in overall equity both helped to reduce poverty. In addition, Indonesia's recent economic history had created conditions favorable to alleviating poverty so long as modest growth in private consumption per capita could be maintained during the adjustment period.

This paper is a product of the Agricultural Policies Division, Agriculture and Rural Development Department. Please contact Cicely Spooner, room N8-039, extension 30464 (54 pages with figures and tables).

287. The Consistency of Government Deficits with Macroeconomic Adjustment: An Application to Kenya and Ghana

Thanos Catsambas and Miria Pigato

This model analyzes the relationship between the fiscal deficit, the real interest rate, the real growth rate, and the real exchange rate — to indicate what conditions are needed to stabilize a country's debt-to-GDP ratio.

Sustainable medium-term debt strategies are essential to adjustment programs committed to high growth and should be integrated into a consistent macroeconomic framework that encompasses debt, growth, and inflation strategies.

One initial step in this direction is the unification of the accounts of the government and the central bank, to insure that some components of the budget are not shifted from one to the other. A second step is to evaluate the government's fiscal stance in relation to stabilization objectives.

Catsambas and Pigato have developed an analytical model that takes both steps into account. Its purpose is to analyze the relationship between the fiscal deficit, the real interest rate, the real growth rate, and the real exchange rate — and to indicate what conditions would be necessary to stabilize a country's debt-to-GDP ratio in the long run.

Catsambas and Pigato analyze three fundamental concepts of deficit: cash (or observed), primary, and operational. They show that the operational deficit best reflects the government's absorption of real resources and is thus the most appropriate indicator for measuring fiscal policy under stabilization and adjustment.

Applying their model to the empirical data for Kenya and Ghana, Catsambas and Pigato reach these conclusions:

The fiscal effort in Kenya should have been somewhat stronger between 1980 and 1987. For the period 1988-91, the projected fiscal balance is broadly consistent with stabilization, and the same goal

can be achieved with a lower inflation or growth rate.

In Ghana, the average fiscal performance between 1980 and 1987 was only slightly weaker than it should have been. Projections for 1988-91 suggest that the government has substantial room for maneuver in its stabilization goals.

This paper is a product of the Trade and Finance Division, Africa Technical Department. Please contact Miriam Ruminski, room J8-262, extension 34349.

288. School Effects and Costs for Private and Public Schools in the Dominican Republic

Emmanuel Jimenez, Marlaine E. Lockheed, Eduardo Luna, and Vicente Paqueo

This study suggests that both elite and non-elite private schools are more effective — and more cost-effective — than public schools.

Using statistical methods to adjust for a bias in selectivity, Jimenez, Lockheed, Luna, and Paqueo analyzed the relative effectiveness and cost-effectiveness of public schools and two types of private schools — elite and non-elite — in the Dominican Republic.

Controlling for selection, they found that students in eighth grade mathematics achieve more in both types of private school than they do in public schools — and achieve more in elite than in non-elite schools.

Differences in teachers' backgrounds and teaching practices account for some of this difference in achievement — but differences in the students' peer background characteristics are substantially more important.

Both types of private school appear to be more cost-effective than public schools.

This paper is a product of the Education and Employment Division, Population and Human Resources Department. Please contact Cynthia Cristobal, room S6-214, extension 33640 (38 pages with tables).

289. Inflation and Seigniorage in Argentina

Miguel A. Kiguel and Pablo Andrés Neumeyer

In Argentina, increases in inflation appear to be closely linked to government attempts to increase seigniorage (government revenues from issuing money). The implication? Any serious stabilization effort requires finding an alternative source of revenue to replace the "inflation tax."

In their model of the relationship between inflation, the inflation tax, and seigniorage, Kiguel and Neumeyer analyze the Argentine experience — for the last decade.

To study the robustness of their model under different regimes, they split the study into three periods — each with distinctive rules about the exchange rate, interest rates, and the mobility of international capital flows.

Argentina — where increases in inflation appear to be closely linked to government attempts to raise seigniorage — is a natural choice for this study because of its persistent high rates of inflation and fiscal imbalance. Monetization of fiscal deficits becomes a major force for creating money and inflation in countries with limited access to domestic and foreign credit.

Kiguel and Neumeyer found that inflation in Argentina played an important role in generating public sector revenues.

At the revenue-maximizing rate of inflation, they found, the government can get seigniorage of about 7.5 percent of GDP in steady state (this was true for the tablita and pre-Austral periods). Between June 1978 and April 1985, there was a clear, positive relation between inflation and the inflation tax for rates of inflation below 18 percent.

Events are more difficult to interpret at inflation rates near and above 20 percent. In the 20 percent range, the inflation tax ranged from 7 to 10 percent of GDP. Steady-state seigniorage is at a maximum 7.5 percent when inflation is around 20 percent a month. Increases in inflation above 20 percent do not give the government more inflation tax revenues. The revenue from inflation seems to fall unambiguously once inflation exceeds 22 percent.

The inflation tax remained close to, and even exceeded, maximum sustainable levels during the first half of the 1980s — and was probably the single most important source of revenue to the government at that time. The implication: any serious stabilization effort requires finding an alternative source of revenue to replace the inflation tax.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 39059 (43 pages with figures and tables).

290. Risk-Adjusted Rates of Return for Project Appraisal

Avinash Dixit and Amy Williamson

Risk premia vary greatly across countries and sectors — so adjusting for risk on an individual project's merits makes more sense than applying a general risk premium on calculations for all lending.

Incorporating risk assessment into public project appraisal makes sense when project risk is significantly correlated with uncertainty about national income. It is especially important in countries that specialize in particular agricultural or resource sectors.

Calculating costs and returns is similar for real and financial investments — but the treatment of risk is better developed for financial investments. Dixit and Williamson present a pilot model — analogous to the capital asset pricing model — that relates the excess return required from a project to project risk.

Dixit and Williamson found that:

Risk corrections can be substantial. The size of the adjustment is affected by the coefficient of variation of GNP, the coefficient of variation for project return, and the correlation between GNP and project return.

The intuition that risk is great for further investment in a crop or sector that constitutes a large part of a country's GNP is not invalid, but this effect may be offset by other forces in operation.

Risk corrections can be negative because of a negative correlation between project return and GNP. Project risks with negative risk adjustments — such as projects involving rice in Nigeria and

groundnut oil in Senegal — are especially attractive. It will be useful to know how to identify them.

Risk premia vary greatly across countries and sectors — so recognizing the risk correction needed for each project on its own merits makes more sense than including a common general risk premium in the rate of return required for all lending. The result would be a reallocation of lending among projects, not a stiffening of standards for all projects and therefore acceptance of fewer.

Risk corrections are small for many sectors and countries. Identifying risk in project appraisal will be simplified if a general class of country and sector combinations can be identified in which risk is negligible — so efforts can be concentrated on the other categories, where the proposed treatment of risk makes a big difference.

Risk affects investment projects in many different, subtle ways. One should not aim for a simple table of risk adjustment terms to be read in a manual and applied directly. Even when the procedure is refined, each situation will need economic analysis and oversight.

Resource requirements for this are not great, however. After routines are developed, one professional economist should be able to incorporate risk assessment into project analysis in less than a week.

This paper is a product of the Agricultural Policies Division, Agriculture and Rural Development Department. Please contact Cicely Spooner, room N8-035, extension 30464 (39 pages with tables).

291. How Can Indonesia Maintain Creditworthiness and Noninflationary Growth?

Sadiq Ahmed and Ajay Chhibber

Indonesia — unique among middle-income oil-producing countries — adjusted rapidly to oil price shocks, and it begins a new decade with good prospects for noninflationary growth and better creditworthiness. What is the country's secret?
Despite external shocks, Indonesia has maintained creditworthiness through swift adjustment.

Indonesia's flexible economic management and clear policy signals have lent stability to the economy, in contrast to the stop-and-go reforms, uncertainty, and constant debt renegotiations in many high-debt countries.

The gains from this stable policy environment — in avoiding capital flight, attracting productive foreign investment, and export diversification — far exceed the likely benefits of contentious debt reduction negotiations currently under way in several highly indebted countries.

Unlike many other developing nations, Indonesia has focused on resolving its debt problems by increasing exports.

Ahmed and Chhibber use an econometrically estimated macroeconomic model to analyze open-economy adjustment in Indonesia — particularly the interaction between the exchange rate, the interest rate, growth, and debt — and to analyze future policy changes in light of Indonesia's objectives for growth, external debt, and inflation.

Indonesia's open capital account — domestic interest rates must equal foreign interest rates plus the expected rate of devaluation — eliminates one avenue for effecting internal adjustment. But it lends discipline to the country's fiscal and monetary management.

This paper is a product of the Office of the Vice President, Development Economics. Please contact Maureen Colinet, room S9-029, extension 33490 (54 pages with figures and tables).

292. Is the New Political Economy Relevant to Developing Countries?

Ronald Findlay

Can the methods and spirit of the New Political Economy be used to explain common features of Third World experience -- such features as the extensive growth of government relative to the private sector, the intensity of trade restrictions and the import substitution syndrome, the urban bias of economic policy and resource allocation, and the heavy dependence on foreign capital?
Protectionism and industrial regulation are two topics in which the interplay of politics and economics is so strong that one wonders why the intellectual merger between the two approaches — in the New Political Economy — has taken so long.

The literature of the New Political Economy largely postulates a framework of political institutions and behavior like those in the advanced industrial countries, especially the United States. The state is seen as passive, and the emphasis is on the activities of interest groups to get legislation favorable to themselves passed by political parties whose only concern is electoral success.

Most developing countries are ruled by military juntas or one-party dictatorships. One doesn't see in them the kind of equilibrium between contending interest groups that characterizes the New Political Economy.

Organized private interests in civil society can be said to emasculate the state in industrialized nations. In contrast, the state in developing countries disproportionately dominates (often represses) a weak and fragmented civil society (often in the interests of a minority that controls the bureaucratic apparatus).

Is the New Political Economy relevant in the Third World?

Yes, says Findlay.

Using the methods and spirit of the New Political Economy, one can develop a theory of the autonomous state, applying it to the conditions prevailing in different developing countries. Using this approach makes possible an explanation of several major features of Third World experience: the extensive growth of government relative to the private sector, the intensity of trade restrictions and the associated phenomenon of the import substitution syndrome, the urban bias of economic policy and resource allocation, and the degree of dependence on foreign capital.

After describing the emergence of the state in Western Europe and the contemporary Third World, Findlay presents an economic model of the state, in which he tries to integrate its productive and predatory features.

He applies the insights from that analysis to some simple general equilibrium models of trade theory, to consider the activities of a public sector within open economies in which trade taxes provide the main source of revenue.

He applies his analysis to Turkey (which went from surplus-maximizing traditional monarchy to developmental dictatorship), India (a successor state to a gunpowder empire), Africa (with its marketing boards), Latin America (whose diverse economies tend to go through

three stages: oligarchy, populism, and bureaucratic-authoritarianism), and the four Far Eastern newly industrializing economies (Hong Kong, Korea, Singapore, and Taiwan, the star performers in development).

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 39059 (44 pages with figures).

293. Central Bank Losses: Origins, Conceptual Issues, and Measurement Problems

Mario O. Teijeiro

Central bank losses usually originate when the bank takes on such nontraditional bank functions as subsidized loans to priority sectors, rescues of troubled financial institutions, or takeovers of private or public debt. There is a way to overcome problems measuring these losses.

Under normal conditions, central banks will be profitable, since they have access to zero-cost financing (the monetary base) and probably some financing at below-market interest rates — and are able to invest these funds at market rates.

In his analysis of central bank losses, Teijeiro assumes that these sources of cheap financing have been exhausted, so that *at the margin* any asset yielding below market rates will produce a loss.

Central bank losses usually originate, he says, when the bank takes on other functions besides its normal role, such as subsidized loans to priority sectors, rescues of troubled financial institutions, or takeovers of private or public debt.

The losses are difficult to measure, however, because of inconsistencies between central bank and nonfinancial public sector accounting.

Measurements that cause difficulty involve, for example, the central bank treatment of nominal capital gains on foreign exchange dealings, accounting for loans, and adjusting operating results for the effect of inflation.

Teijeiro recommends a method for dealing with these problems. In many cases, he admits, data problems may necessitate the shortcut of calculating the central bank deficit from changes in its assets and liabilities.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 39059 (23 pages).

294. Irreversibility, Uncertainty, and Investment

Robert Pindyck

Irreversible investment is especially sensitive to such risk factors as volatile exchange rates and uncertainty about tariff structures and future cash flows. If the goal of macroeconomic policy is to stimulate investment, stability and credibility may be more important than tax incentives or interest rates.

Most major investment expenditures are at least partly irreversible: the firm cannot disinvest, so the expenditures are sunk costs.

Irreversibility has important implications for investment decisions — and for the factors most likely to affect investment spending.

Irreversible investment is especially sensitive to such risk factors as uncertainty about future cash flows, interest rates, and the cost and timing of investments.

Pindyck reviews some simple models of irreversible investment — to explain how optimal investment rules can be obtained from contingent claim analysis or from dynamic programming.

He also discusses how to model investment when irreversibility is important, so one can understand the likely response of investment spending to policy incentives and other changes in the environment.

To the extent that the goal of macroeconomic policy is to stimulate investment, for example, stability and credibility may be more important than tax incentives or interest rates. As a determinant of aggregate investment spending, the level of interest rates may be less important than their volatility (and the volatility of other variables).

Trade reform, when suspected to be only temporary, can also be counterproductive, with aggregate investment declining because of liberalization. Uncertainty about future tariff structures, and hence over future factor returns, creates an opportunity cost for committing capital to new physical plant. Foreign exchange and liquid assets held abroad involve no such commitment, and so may be preferable even though the expected rate of return is lower.

Likewise, it may be difficult to stem or reverse capital flight if the perception is that it may become more difficult to take capital out of the country than to bring it in.

Investments in the energy field may be influenced by the threat of price controls, windfall profit taxes, or related policies that might be imposed should prices rise substantially.

Policies that stabilize prices may influence investment decisions in markets for commodities (such as oil) for which prices are often volatile.

Increases in the volatility of interest or exchange rates depress investment — but it is not clear how much. Determining the importance of these factors — through empirical studies and simulation models — should be a research priority.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, N11-057, extension 39059 (53 pages with figures).

295. Developing Country Experience in Trade Reform

Vinod Thomas

The countries that received trade adjustment loans experienced relatively more growth in output than other countries did, partly because of growth in imports and partly because of policies. The factors that most constrain trade reform are macroeconomic instability, inadequate conviction about reform, weak implementation capacity, and conflicts in design.

During the 1980s, developing countries have addressed trade reform in varying degrees.

There has been major reform in exchange rate policy, in the reduction of export restrictions, and in removing impediments to the imports of inputs needed by exporters.

Import regimes in many countries have been improved by substituting tariffs for quantitative restructions. The lowering of import protection has been more modest in the face of foreign exchange constraints.

Through adjustment lending, the World Bank has supported trade reform in more than 40 countries. Considering this emphasis, one might expect stronger reforms. Four factors that have constrained reform action are:

- Macroeconomic instability.
- Inadequate conviction about the benefits of (and vested interests against) reform.
- Weak implementation capacity.
- Conflicts in design.

When considering nine performance indicators, trade loan recipients showed stronger improvement in performance than nonrecipients in about two-thirds of the instances.

Much of the growth in output was associated with additional imports. Policy reform had a positive impact on growth performance.

Less progress was made in debt indicators.

The evidence supports the need for continued, stronger efforts to reform trade regimes and complementary policies as part of adjustment lending.

This paper is a product of the Trade Policy Division, Country Economics Department. Please contact Sheila Fallon, room N10-017, extension 38009 (39 pages with tables and figures).

296. How Serious is the Neglect of Intrahousehold Inequality?

Lawrence Haddad and Ravi Kanbur

Ignoring intrahousehold inequality can lead to considerable underestimates of the true levels *of poverty and inequality. But the estimated* patterns *of poverty and inequality across key socioeconomic groups are not affected dramatically.*

Haddad and Kanbur developed a framework for assessing the consequences of ignoring intrahousehold inequality in the measurement and analysis of poverty and inequality.

After applying this framework to data for the Philippines — based mainly on relative caloric intake in households — they concluded that:

- The result of neglecting intrahousehold inequality will probably be considerable understatement of the levels of poverty and inequality. With the Philippine data, measured levels of inequality and poverty were off 30 percent as a result of ignoring intrahousehold variation.
- *Patterns* of inequality revealed by household level data are somewhat different from patterns revealed by individual level data, but the differences seem not to be dramatic. To confirm these results, the exercise should be repeated with data from other countries.

Haddad and Kanbur's conclusions are likely to be of interest to those considering the costly task of surveys focused on intrahousehold patterns in developing countries. Unless policymakers are interested primarily in more accurate measurement of levels of inequality and poverty, the exercise may not be cost-efficient.

This paper is a product of the Office of the Research Administrator. Please contact Jane Sweeney, room S3-026, extension 31021 (39 pages with figures and tables).

297. Effects of the Multi-Fibre Arrangement on Developing Countries' Trade: An Empirical Investigation

Refik Erzan, Junichi Goto, and Paula Holmes

Rather than ease up, the MFA has been getting tougher on most developing country exporters of textiles and clothing. Trade gains for new exporters (except for marginal suppliers) due to MFA have been exaggerated; main beneficiaries were the domestic producers in industrial countries.

After analyzing data on trade and restrictions in U.S., EC, Canadian, and Swedish markets during the 1980s, Erzan, Goto, and Holmes conclude that:

- Rather than ease up, the Multi-Fibre Arrangement (MFA) became more restrictive, particularly for relatively new suppliers, during the 1980s. Proportionately more shipments were subject to quotas. The MFA's grip was tighter on clothing than on textiles but the pattern across markets and over time was the same for both.
- Volume generally grew less where quotas were binding.
- The unit value of shipments subject to binding quotas increased substantially more than the unit value of unconstrained items.
- Developing countries that were new exporters of textile products hoped to capture a larger share of the textile market as a result of quotas set for other developing countries. But except for marginal suppliers who emerged largely because of the MFA, the needy countries have benefited little from the MFA. And countries whose exports grow soon find themselves on the restricted list.
- Domestic producers in the United States have benefited most from the MFA.

This paper is a product of the International Trade Division, International Economics Department. Please contact Lucy Tan, room S8-045, extension 33702 (50 pages with figures and tables).

298. Evaluating Global Macroeconomic Models: A Case Study of MULTIMOD

Ahmad Jamshidi

Structural and theoretical properties of macro models direct their responses. The simulation results of MULTIMOD uphold the Mundell-Flemming story. The model's forward looking property allows faster adjustment of all prices including exchange rates. Its responses are symmetric, but the degree of linearity varies with the magnitude of policy shocks.

The growing role of multiregional macro models in the discussion of international macroeconomic policy issues necessitates study of their structural and theoretical properties before using them — as is planned, for example, in the International Economics Analysis and Prospects Division. Two questions arise. First, of the model's exogenous variables and coefficients, which ones have more influence on the endogenous variables of interest? Second, what tools and techniques are available to examine the functioning of the models with respect to their structural properties?

Jamshidi explored the above objectives in the IMF's MULTIMOD by evaluating its theoretical specifications and

validating its structural properties.

He found the model relatively small and simple in its theoretical specification, but advanced in its modeling techniques, exemplified by its "forward-looking" features. The estimation scheme employed emphasizes the comparability across countries through standardization of specifications and imposition of common coefficients. Thus, the differences in countries' responses to policy shocks are attributable to the differences in their structural features.

The model's forward-looking property allows faster adjustment of all prices, including exchange rates and interest rates, than do conventional macro models. A major strength of the model is the effective transmission of policy changes across countries.

The examination of linearity and symmetry measures, using Zellner-Peck techniques, suggests that the responses of the model are highly symmetric and increasingly nonlinear with the growing magnitude of shocks. (In nonlinear models multipliers depend on the starting values of the endogenous variables, and simulation results are very sensitive to exogenous variables time paths.)

MULTIMOD can be used in many ways to discuss North-South issues. The expansion of North-South links, especially financial links, would widen the scope for generating useful scenarios.

Simulation examples are presented for monetary and fiscal policy scenarios in the North (with their impacts on the developing economics), oil price shocks, and debt relief schemes.

This paper is a product of the Analysis and Prospects Division, International Economics Department. Please contact Mila Divino, room S7-037, extension 33739 (83 pages with figures and tables).

299. The External Effects of Public Sector Deficits

Carlos Alfredo Rodriguez

This two-equation model measures how public sector deficits — and the way they are financed — affect the real exchange rate, the trade balance, the current account, and the level of external indebtedness.

Rodriguez developed a two-equation model for measuring how public sector deficits — and the way they are financed — affect the real exchange rate, the trade balance, the current account, and the level of external indebtedness. He concludes that:

The level and composition of government spending affects the real exchange rate because of the effect of spending on nontraded goods.

However, whether the government deficit affects the external sector depends on whether the proposition of Ricardian equivalence holds. The general thrust of that proposition is that a tax reduction financed by debt will have no real effect on the economy if the public discounts future taxes to service the debt and therefore increases savings by the exact amount of taxes reduced.

If the Ricardian equivalence does not hold — and empirical evidence is inconclusive — government deficits will directly affect the excess of spending over income in the economy and therefore the trade balance.

Changes in the trade balance are bound to affect the real exchange rate. How much depends on how much expenditure must be switched to make the trade balance compatible with the change in aggregate spending. The dynamic effects are the result of induced changes in the rate of private accumulation of foreign assets.

A two-equation model is necessary: one equation relating the real exchange rate to the trade surplus and another describing the trade surplus as a function of structural parameters, the fiscal deficit, and the stock of foreign assets.

To make the model dynamic, one must allow for the fact that the level of foreign assets — one determinant of the trade surplus and current account — changes over time. The trade surplus, plus foreign interest earned, determines the evolution over time of the stock of foreign assets.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. It was financed by a preparation grant for the project "The Macroeconomics of the Public Sector Deficit." Please contact Raquel Luz, room N11-057, extension 39059 (22 pages).

300. How the 1981-83 Chilean Banking Crisis was Handled

Mauricio Larrain

The Chilean government's quick, aggressive response to the banking crisis of 1981-83 involved an imaginative compromise between letting Chile's banks go bankrupt, or bailing them out. That compromise, and comprehensive long-term measures, have brought a quick recovery.

The banking crisis in Chile in 1981-83 was widespread — representing about 60 percent of the banking system's total portfolio.

The crisis arose because of macroeconomic problems — which weakened borrowers' capacity to repay loans — and was exacerbated by unsound financial practices.

The government was faced with two extreme solutions: to let insolvent banks go bankrupt, or to bail them out, absorbing their losses. It chose an intermediate solution. The government and shareholders took over losses. Some institutions were liquidated, and others were rescued and rehabilitated, depending on their level of solvency. With few exceptions, depositors and foreign creditors took no losses.

The government used two types of mechanism to rehabilitate the banking system. One type was aimed at improving borrowers' capacity to repay loans to the banks (mainly across-the-board debt rescheduling and coverage for exchange rate losses). The other was aimed at rebuilding the banking system's capital base (mainly through the central bank's purchase of nonperforming loans, with shareholders obligated to repurchase those loans from future profits).

The government also strengthened banking supervision by improving loan portfolio analysis and increasing the transparency of financial transactions.

The decision to recognize and allocate losses quickly, and to implement comprehensive measures to resolve the banking crisis, were the key to Chile's success in surviving the crisis. Had allocation of losses been delayed, or solutions partial, losses would probably have increased and the system would not have recovered so rapidly.

Interest rates on loans, which reached almost 40 percent a year in real terms in 1981-82, declined to 7.7 percent by 1987. Returns on equity, negative in 1982, reached a healthy 13.7 percent in 1987. Chile's M2/GDP ratio is recovering.

This paper, a background paper for the 1989 World Development Report, is a product of the Office of the Vice President, Development Economics. Please contact the World Development Report office, room S13-060, extension 31393 (25 pages with tables).

Volume IV

Numbers 301 – 400

301. Myths of the West: Lessons from Developed Countries for Development Finance

Colin Mayer

Banks finance firms, and firms finance projects. The main contribution of banks to economic development is the promotion of corporations, not the financing of projects.

World Bank missions between 1948 and 1968 identified inadequate long-term credit as a primary deficiency of developing countries' financial systems. Existing institutions provided mostly short-term financing and were often foreign owned.

Bank missions recommended establishing development finance companies (DFCs) to provide long-term financing for worthwhile (primarily industrial) projects.

The DFCs' performance has been disappointing. Few are self-supporting; a third are in serious difficulty; and by 1983 half of the banks had arrears on a quarter of their loans. By the early 1980s, the Bank's wisdom in establishing DFCs was being questioned.

Mayer makes several observations about corporate finance in developed countries. Retentions are the dominant source of finance while banks are the dominant source of external finance. In no developed country do companies raise a substantial amount of finance from securities markets. Securities markets provide an efficient means for transferring ownership claims in established corporations. Mayer attributes these phenomena to the monitoring and control function of banks, which depends on their managerial ability and on the costs of bankruptcy and creditor coordination.

From the recent experience of a group of developed countries, Mayer concludes that:

- An efficient banking system is central to the promotion of economic growth.
- The performance of financial markets is not necessarily furthered by artificially lengthening the maturity of bank lending.
- Economic growth is not promoted through the financing of projects. Economists think in terms of projects; bankers rarely do. Banks finance companies, not projects. Project financing can be used to stimulate economic growth only in a few areas. On the whole, economic development depends on the promotion of corporate organizations.
- Corporate organization, not project activity, is what distinguishes developed from developing countries. Economic growth relies on the structure and quality of financial institutions.
- An external agency may have technical skills and financial resources, but its knowledge about individuals and management teams may be limited. Financial assistance is only part of what is needed to create an appropriate institutional structure. Screening, monitoring, and rewarding individuals may often be more pertinent.

This paper, a background paper for the 1989 World Development Report, is a product of the Office of the Vice President, Development Economics. Please contact the World Development Report office, room S13-060, extension 31393 (36 pages with tables).

302. Improving Support Services for Rural Schools: A Management Perspective

Sherry Keith

An adaptation of the training and visit system used in agricultural extension may be a good model for managing the delivery of technical support services to isolated rural schools.

Management is a major weakness of rural school supervision systems. Management systems for rural schools should emphasize regular school visits by trained specialists whose task is to help rural teachers with teaching skills and rural principals with routine administrative tasks.

Instead, Bank projects provide uncoordinated "components," such as transportation and one-time training efforts for field staff.

The training and visit (T&V) system used in agricultural extension provides a model for managing supervision of rural education. It must be adapted to education, though, by:

- Targeting specific rural client groups with similar educational needs and problems.
- Providing services that schools want to receive.
- Strengthening links between teacher training colleges, educational research institutions, and rural classrooms.

Keith recommends including a T&V system in ongoing and future educational projects, after careful evaluation of the pilot project.

This paper is a product of the Public Sector Management and Private Sector Development Division, Country Economics Department. Please contact Jayne Cheeseman, room N9-065, extension 37644 (35 pages with tables).

303. Is Undernutrition Responsive to Changes in Incomes?

Martin Ravallion

An approach is offered for simulating the effects of income and price changes on various measures of undernutrition, using caloric intake functions. It is argued that recent econometric estimates of the income elasticity of caloric intake may considerably understate the effect of income changes on measures of aggregate undernutrition. Empirical results are for Indonesia.

Is aggregate undernutrition responsive to changes in individual incomes?

One problem in answering this question is defining undernutrition. The extent of undernutrition depends not only on nutrient intakes but on other factors, including nutrient requirements — which may differ widely amongst people.

In developing countries, we are more concerned about changes in caloric intake for people who we deem to be "undernourished" than for those who are not. And among those who are poorly nourished, we should be more concerned about those who are a long way from adequate intake than about those who are close to it.

Ravallion offers an approach to measuring the effects of shifts in budget constraints or other household parameters on undernutrition — an approach that

can address those issues.

Using household data on calorie consumption, income, prices, and other household characteristics for the province of East Java in Indonesia, Ravallion illustrates how to:

• Estimate caloric intake functions for that data.

• Use those functions to simulate the effects of income changes on various measures of caloric undernutrition. Those measures include the popular headcount index and two alternative measures more responsive to the depth of undernutrition, and to individual variations in its severity.

He proposes a method for accounting for interhousehold differences in nutritional needs, based on estimate calorie intake functions. Thus the caloric norm need only be predetermined for a specific reference person or household.

Ravallion finds that the income elasticity of measured undernutrition is considerably higher than the income elasticity of individual caloric intakes. The reason is that the density of people tends to be high in a neighborhood of requirement norms, and intake responses tend to be highest amongst those who are least well nourished. Recent arguments that intakes are unresponsive to income changes should thus be interpreted with caution.

This paper is a product of the Agricultural Policies Division, Agriculture and Rural Development Department. Please contact Cicely Spooner, room N8-039, extension 30464 (45 pages with tables).

304. The New Political Economy: Positive Economics and Negative Politics

Merilee S. Grindle

Neoclassical political economy explains why developing countries do not adopt development specialists' advice more regularly. But it misrepresents the dynamics of policymaking in developing countries and cannot easily explain policy changes or "wise" policy choices.

Neoclassical political economy provides compelling theory in response to the question, "Why should reasonable men adopt public policies that harm the societies they govern?" Microeconomic assumptions about individual self-interest are applied to the political claims of citizens, to the actions of politicians and policymakers, to the behavior of bureaucrats, and even to the actions of states more generally. Citizens, politicians, bureaucrats, and states purposely use the authority of the state to distort economic interactions to their own benefit. In doing so, they are behaving in a way that is politically rational, however irrational the economic results may be for society. The solution is to limit government; less politics makes better economics, or so the argument goes.

Grindle argues that this perspective on politics misrepresents the dynamics of policymaking in developing countries and is seriously limited in its ability to explain how policy changes come about or how policies are chosen that lead to socially beneficial outcomes.

She indicates that society-centric models of political economy adopted from the U.S. experience are not relevant for most developing countries. State-centric adaptations come somewhat closer to the reality of how public policy is formulated and implemented there. But even state-centric applications do not address the dynamics of policymaking and implementation in developing countries and are therefore unable to explain policy changes or wise policy choices.

Grindle argues that these are critical weaknesses of neoclassical political economy, and they present policy analysts with a challenge: can alternative models of politics be conceptualized that address issues of change, predict the content of change, and maintain a role for those who seek both politically and economically viable solutions to the major problems facing developing countries in the decades ahead?

She recommends an alternative approach to political economy that does not treat politics as a negative factor in policy choice. She emphasizes understanding the preferences and perceptions of policy elites, the circumstances that surround the emergence of policy issues, the concerns of decision makers, and the factors that affect the implementation and sustainability of policy change. In such an alternative, politics consists of efforts at problem solving through bargaining and the use of political resources in the context of great uncertainty.

Economic and political logic are not always at loggerheads and there often exists a space in which citizens, public officials, and analysts can maneuver to achieve policy choices that are both politically and economically wise. It is worthwhile to attempt to model this space and to use such models to help craft policy advice.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 39059 (67 pages).

305. World Bank Work with Nongovernmental Organizations

Lawrence F. Salmen and A. Paige Eaves

Nongovernmental organizations provide development projects with motivation, education, and organization. They should be involved earlier in project development. Successful operations depend on well-designed linkages between NGOs and government.

The report reviews 24 of 202 Bank projects that involved nongovernmental organizations (NGOs) to identify ways to improve Bank-NGO collaboration.

The Bank has involved NGOs far more in implementation (57 percent) than design (11 percent). Service providers and intermediaries (45 percent) and contractor NGOs (35 percent) were involved much more in project work than the other three types.

The report identifies five functional categories of NGO interaction with the Bank along a public-private continuum, based on the varying degrees to which they represent social (common) goals on the public end of the continuum and economic goals on the private end: community associations, policy advocacy groups, service providers and intermediaries, contractors, and cooperatives.

Discussion focuses on the benefits and difficulties arising from the involvement of NGOs in each category in Bank-supported projects.

The report concludes that Bank staff should better understand NGOs and their involvement in operations. It recommends involving NGOs before implementation, developing creative financing mechanisms to support them, and learning what they have to teach Bank staff

about motivation, education, and organization.

NGOs have generally been underused as partner institutions. In most cases, NGOs brought into project work contributed to project success.

The challenge for the Bank is to forge institutional links between governments and NGOs that extend and complement government capabilities. Governments and NGOs must learn to respect each other so they can work toward such mutual goals as poverty alleviation.

This paper is a product of the Public Sector Management and Private Sector Development Division, Country Economics Department. Please contact Ernestina Madrona, room N9-061, extension 37496 (96 pages with tables).

306. A Method for Macroeconomic Consistency in Current and Constant Prices

Ali Khadr and Klaus Schmidt-Hebbel

An accounting method for showing budget flow and stock relations, in current and constant prices, for a six-sector economy.

Khadr and Schmidt-Hebbel extend earlier work on current-price budget identities to treat constant-price flow relations.

This introduces relative prices and constant-price values for all relevant output and aggregate demand components and permits a distinction between real variables and relative price changes.

It also permits breaking the changes in asset and liability holdings down into (a) changes in real holdings and (b) capital gains and losses due to inflation and exchange rate depreciation. This makes possible a distinction between savings and a change in real wealth, or "adjusted" savings.

In Working Paper 310, Khadr and Schmidt-Hebbel apply the framework to data on Zimbabwe for 1981 and 1987.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Susheela Jonnakuty, room N11-039, extension 37453 (60 pages with tables).

307. On the Accuracy of Economic Observations: Do Sub-Saharan Trade Statistics Mean Anything?

Alexander J. Yeats

Statistics on trade between African countries are almost useless for empirical and policy studies — partly because of smuggling and false invoicing.

Matching exporters' f.o.b. trade statistics with the corresponding importers' c.i.f. data, Yeats studied the quality of official information on trade between 36 African countries.

Yeats found the disparities in data so great as to make the official trade statistics almost useless for most empirical and policy studies. He concludes that:

- Statistics on matching exports and imports vary so much — on average, one is more than twice the other — that the data cannot be used to assess the *level* of trade between African countries.
- The data are probably equally useless for assessing the *direction* of trade since the countries that exporters report as the destination of trade often fail to report corresponding imports.
- The data are inadequate for determining the *composition* of trade because countries report on different levels of detail about what is traded.
- Large, persistent, apparent differences in *trends* in intra-African trade may simply reflect different degrees of accuracy in country trade data.
- The fact that reported (f.o.b.) exports often exceed the corresponding reported (c.i.f.) imports suggests either that smuggling is widespread between African countries or that importers are intentionally underinvoicing because of high African tariffs or quotas.

This paper is a product of the International Trade Division, International Economics Department. Please contact Jean Epps, room S8-037, extension 33710 (32 pages with tables).

308. Harmonizing Tax Policies in Central America

Yalcin M. Baran

Transforming the Central American Customs Union into a modern common market can be achieved only by reforming the tariff regime. Here is an action plan for rationalizing and harmonizing Central American tax structures.

To harmonize tax policies among Central American nations, Baran recommends the following:

- Continuing trade liberalization, by reducing the level and dispersion of effective trade protection.
- Shifting the tax system from reliance on trade to reliance on domestic transactions and income.
- Making the value-added tax (cum selective consumption taxes) the backbone of the tax system, and harmonizing those taxes among the member countries of the Central American Common Market (CACM).
- Improving tax administration.
- Harmonizing taxes on inputs and exempting nontraditional exporters from paying import duties.
- Moving toward coordinating taxes on factor incomes (personal and corporate income, property and land taxes, and taxes on financial gains) to avoid double taxation.
- Eliminating all quantitative import restrictions, prior imports deposits, non-common import tariffs, and other restrictions on imports from other CACM members.
- Applying similar principles in designing export taxes on coffee and bananas.
- Not using differential exchange rates to discriminate against regional trade.

This paper is a product of the Country Operations Division, Latin America and the Caribbean Regional Office, Country Department II. Please contact Tipawan Watana, room I8-155, extension 31882 (48 pages with tables).

309. How to Improve Public Sector Finances in Honduras

Yalcin M. Baran

The Honduran government should develop a plan to modernize administration of the public sector, increase public sector savings, ensure the financial viability of the national electric company, and improve the public investment program.

The objectives of a public sector manage-

ment program should be to use resources more efficiently, rationalize public sector operations, and reduce financial disequilibrium.

Baran recommends that Honduran authorities prepare an action plan for improving public sector management. That plan should include measures to:

- Increase savings.
- Introduce efficiency-saving measures.
- Improve budgeting, debt management, and tax collection.
- Standardize accounting practices and properly account for debt service obligations.
- Start external management audits of enterprises.
- Establish financial targets for, and reduce government transfers to, public enterprises.
- Improve service delivery.
- Implement a well-defined privatization program.
- Prepare and implement a growth-oriented and financially feasible public investment program.
- Improve decisionmaking and increase accountability and autonomy in public enterprises.
- Improve coordination of the sector.
- Target subsidies.
- Produce better financial information on the public sector.

This paper is a product of the Country Operations Division, Latin America and the Caribbean Regional Office, Country Department II. Please contact Tipavan Watana, room I8-155, extension 31882 (35 pages with tables).

310. A Framework for Macroeconomic Consistency for Zimbabwe

Ali Khadr and Klaus Schmidt-Hebbel

This framework for macroeconomic consistency (applied here to Zimbabwe) provides an organizing device for checking the consistency of data, a snapshot of the principal resource transfers in an economy, and a tool for financial programing or model building.

Khadr and Schmidt-Hebbel apply a framework for consistency, which they developed elsewhere, to Zimbabwe.

Using annual data for 1981 and 1987, they illustrate the usefulness of imposing consistency on the flow budget accounts (in both current and constant prices) of a developing economy.

This economy is represented by six sectors: the central government, public enterprises plus local government, the central bank, the deposit banking system, the nonfinancial private sector, and the external sector.

Such a framework, they contend, provides:

- An organizing device with which to check the internal consistency of data.
- A snapshot of the principal resource transfers in the economy, which can be helpful in diagnosing and analyzing macroeconomic imbalances and unsustainable resource flows.
- A tool for financial programing or a first step in a model-building effort that entails specifying behavioral relationships.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Susheela Jonnakuty, room N11-039, extension 37453 (90 pages with matrices and tables).

311. Macroeconomic Performance Before and After Disinflation in Israel

Leonardo Leiderman and Nissan Liviatan

Israel's successful 1985 stabilization program brought sharp, immediate disinflation, a private consumption boom, increased economic activity, relatively high real wages and interest rates, and a low (appreciated) exchange rate. Only in the fourth year did the boom stop and unemployment rise. What lessons from that experience can be applied elsewhere?

The Israeli stabilization program of 1985 is generally considered one of the most successful such programs in years. Under it, the inflation rate plummeted from about 400 percent a year to about 15-20 percent a year.

Leiderman and Liviatan examined how stabilization affected other key economic variables after 1985. They were particularly struck by the immediate, abrupt reduction in the rate of inflation and the timing and impact of disinflation on other real variables.

For more than two years after the program, a private consumption boom was accompanied by increased economic activity, relatively high real wages and real interest rates, and a low (appreciated) real exchange rate.

Only in the beginning of the fourth year after the program did the consumption boom stop, economic activity become stagnant, and the rate of unemployment rise.

The consumption boom seems closely related to the possibility that the program and the fixed exchange rate policy partially lacked credibility. Apparently the public perceived the changes as mainly temporary.

The recent rise in unemployment seems largely to reflect the beginning of a process of *structural adjustment* whereby resources are reallocated across the economy to conform to the new low inflation equilibrium. This process may involve less growth in the transitional stage but will allow an increase in long-term growth after adjustment is completed.

What implications does the Israeli program — a laboratory experiment in heterodox policy — have for the debate about gradualism versus shock treatment in the process of stabilization?

In reducing inflation, the program seems to have had the same effectiveness as other shock treatment programs: there was a sharp and immediate disinflation. This was probably because multiple nominal targets (such as a fixed exchange rate and price-wage controls) were used in conjunction with adjustments in fundamentals, right from the start. This mix makes the program heterodox.

In terms of the real costs of disinflation, the program may seem more gradualist. The real costs, in terms of increased unemployment, were postponed for several years and in the transition there was actually a boom in economic activity.

Which of these results are peculiar to Israel and which are common to heterodox policies generally is a question worth addressing.

Method: Using simple times series techniques applied to monthly data for 1980-88, Leiderman and Liviatan investigated changes in the time series properties of key macroeconomic variables in 1985 and after. They focused especially on changes in the tradeoff between infla-

tion and unemployment.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-059, extension 39059 (56 pages with figures and tables).

312. Improving Public Enterprise Performance: Lessons from South Korea

Mary M. Shirley

The performance evaluation system, successfully applied in Korean public enterprises, has four essential prerequisites: (1) parallel reforms to increase managerial autonomy and skills, (2) reliable and timely information, (3) adequate skills to supervise and evaluate, and (4) political will. The paper suggests ways to build up and compensate for the first three requirements; there is no substitute for the fourth.

In 1983 Korea dramatically changed the way it managed the largest and most important group of its public enterprises, the Government Invested Enterprises, or GIEs. The reforms increased enterprise autonomy, changed managerial selection procedures, and began systematically to evaluate performance and provide incentives on the basis of the evaluation. This paper assesses the results of these reforms and suggests ways the Korean performance evaluation system might be adapted to circumstances in other countries.

The impact of the reforms on operational efficiency can be measured for five of the GIEs, including two of the most important enterprises in the economy: the Korean Power Corporation (KEPCO) and the Korean Telecommunication Authority (KTA). This group of enterprises shows a sharp improvement in efficiency in the period after the reforms, well above their past trends in performance. While this paper was unable to attribute the efficiency gains conclusively to the reforms, there is strong qualitative evidence that the changes were an important reason for the operational improvements.

A central feature of the Korean reforms is the performance evaluation system, which sets clear targets for management and provides bonuses on the basis of outcomes. The Korean system is similar to one operating in Pakistan, and both are based on systems used in large private companies to manage their subsidiaries, which should make the system adaptable to other country circumstances.

The system has four essential prerequisites for success: (1) parallel reforms to increase managerial autonomy and skills, (2) reliable and timely information, (3) adequate skills to supervise and evaluate, and (4) political will. The paper suggests ways to build up and compensate for the first three requirements; there is no substitute for the fourth.

This paper is a product of the Private Sector Development and Public Sector Management Division, Country Economics Department. Please contact Rose Malcolm, room N9-053, extension 37495 (48 pages with graphs and tables).

313. The Evolution of Paradigms of Environmental Management in Development

Michael E. Colby

From the polarized debate between "economics" and "development" on one side and "ecology" and "conservation" on the other, five paradigms for environmental management have evolved: frontier economics, deep ecology, environmental protection, resource management, and ecodevelopment. What do they mean for development?

In the past quarter century, environmental management has increasingly become a concern of governments. More recently, the traditional split between developers and conservationists has begun to break down.

Increasingly, analysts discuss sustainable development, with different ideas emerging from a range of disciplines as to what that entails. Conceptions of what is economically and technologically practical, ecologically necessary, and politically feasible are rapidly changing.

Colby discusses the distinctions and connections between, and implications of, five paradigms of environmental management in development. He says the remedial (defensive), legalistic approach of environmental protection is breaking down because it has proven to be an ineffective and inefficient means of dealing with the negative consequences of unmodified frontier economics and development. Serious interest in the more economically integrated approach of resource management has recently begun to take hold.

Several interdependent forces indicate that improving the economic management of pollution and resources may be a necessary but insufficient measure to create the conditions for sustainable development. These forces include threats of changes in the ozone layer and global climate, widespread problems of depletion and degradation of natural resources and services, and growing disparities between the rich and poor. Together with the easing of military and ideological competition between the superpowers, these forces may compel a redefinition of both security and development, allowing for a redeployment of resources.

The perception of tradeoffs between development and environmental quality persists in the present debate, but its necessity is greatly exaggerated, according to Colby. Developmental approaches that fully integrate environmental, technological, and social systems offer synergetic economic, social, and ecological benefits; this is the synthesis ecodevelopment attempts to achieve.

But paradigms may be impervious to evidence, and institutions and societies too difficult to change. The adherents of each may go on talking past each other, avoiding the real discussions and conflicts that are necessary to achieve a synthesis. Whether, when, and how it resolves these issues may be modern civilization's most significant test.

This paper is a product of the Strategic Planning Division, Strategic Planning and Review Department. The paper also appeared as Strategic Planning and Review Discussion Paper No. 1. Please contact Carole Evangelista, room S13-137, extension 32645 (37 pages with figures and tables).

314. Primary Commodity Prices and Macroeconomic Variables: A Long-run Relationship

Theodosios Palaskas and Panos Varangis

There is a long-run quantifiable relationship between real interest rates and real

commodity prices, but not between real commodity prices and either consumer prices or the money supply. Commodity prices in nominal terms strongly affect consumer prices but not the reverse — and some groups of commodity prices can be reliable indicators of movements in consumer prices. Changes in the money supply affect commodity prices — but not the reverse, and the relationship is not quantifiable.

In recent years, fluctuations in such macroeconomic variables as interest rates and exchange rates appear to have significantly affected primary commodity prices.

Could primary commodity price indices be used as an indicator of inflation? What was the impact on commodity prices of announcements about the money supply, inflation, and economic activity?

Palaskas and Varangis studied the relationship between commodity prices and various macroeconomic variables.

They focused particularly on interest rates because of the important role they play in the portfolio adjustment model, in which investors move between commodities, bonds, and money as interest rates change.

Their tests did not rule out the hypothesis that there is a measurable, long-run equilibrium between real interest rates and real commodity prices. Changes in real interest rates significantly affect prices on metals, minerals, nonfuel commodities, and agricultural raw materials — as represented by the World Bank's commodity price indices.

Their tests rejected the hypothesis of a long-run relationship between real commodity prices and either consumer prices or the money supply (as represented by U.S. M2 plus dollar holdings in foreign central banks).

Causality tests show that commodity prices in nominal terms (except for metals and minerals) strongly affect consumer prices (as represented by the weighted consumer price index of the G-7 countries), but consumer prices do not affect commodity prices. And some groups of commodity prices can be reliable indicators of movements in consumer prices.

Causality tests also show that changes in the money supply cause changes in commodity prices, but commodity prices do not affect the money supply. Nor is it possible to quantify the relationship between money supply and commodity prices.

Palaskas and Varangis use co-integration techniques, error-correction modeling, and causality tests to analyze the relationships between macroeconomic variables and commodity prices.

Using an error correction model to specify and estimate the relationship between real interest rates and real commodity prices provides equations using other macroeconomic variables which have good forecasting abilities on commodity prices, such as industrial production, exchange rates, and the price of oil.

This paper is a product of the International Commodity Markets Division, International Economics Department. Please contact Dawn Gustafson, room S7-044, extension 33714 (54 pages with graphs and tables).

315. Notes on Patents, Distortions, and Development

Julio Nogués

What are the economics of patents? What problems arise in implementing a patent system? How much do distortions in developing countries affect the benefits and costs of a patent system? And what are the policies that would increase the likelihood of patents benefiting a developing country?

The idea behind patent policies is to increase the output of commercially useful innovations by creating a transitory property right that allows the inventor to appropriate part of the returns from his invention.

In practice, the issue is so complex that after evaluating the U.S. patent system in 1958 Fritz Machlup concluded, "If we did not have a patent system, it would be irresponsible, on the basis of our present knowledge of its economic consequences, to recommend instituting one. But since we have had a patent system for a long time, it would be irresponsible, on the basis of our present knowledge, to recommend abolishing it." Empirical research done in the 30 years since Machlup's study suggests that the patent system has benefited competitive industrial countries in important ways.

In developing countries, two types of considerations need to be addressed. First, there are issues of designing an appropriate patent system. This includes considerations of administrative efficiency, the impact on government expenditures, and the legal administration of intellectual property rights.

Second and more fundamentally, the investments that patent incentives trigger in research and development are one of many uses for scarce savings. Returns to investments protected by patents depend on the productivity of the inventive process and the industrial applicability of innovations. For several reasons — including the paucity of experience in research and development — the productivity of inventive and innovative processes might be low in some developing countries. In such situations care should be taken that scarce investment resources are not wasted in unproductive research and development endeavors.

The paper also argues that in unstable and protected economies, the social returns of patented innovations might be low. One reason for this is that innovations that are appropriate for a given productive structure might not be applicable when a shift in policies induces a new economic structure. If so, the analysis suggests a sequencing of policies where patent protection should be strengthened once developing countries have achieved a level of savings compatible with investments in risky research and development projects, relative economic stability and competition through open market policies.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to increase the understanding of the impact of patent protection on developing economies. Please contact Maria Teresa Sanchez, room S8-039, extension 33833 (30 pages with figures and tables).

316. The Macroeconomics of Populism in Latin America

Rudiger Dornbusch and Sebastian Edwards

The experiences of Chile under Allende and Peru under Garcia illustrate that when populist policies fail they do so at a frightening cost to the very groups they were meant to benefit.

By "populism" Dornbusch and Edwards mean an economic approach that emphasizes growth and income redistribution and deemphasizes the risks of inflation and deficit finance, external constraints, and the reaction of economic agents to aggressive nonmarket policies.

Dornbusch and Edwards analyze two instances of populism — Chile under Allende and Peru under Garcia — that led to disastrous consequences for those who were meant to benefit from them.

They describe these experiences in detail, not as a righteous assertion of conservative economics but as a warning that populist policies ultimately fail — and always at a frightening cost to the groups they were supposed to benefit. The very sincerity of the policymakers in Chile and Peru convinces the authors of the necessity of laying out exactly how and why such programs go wrong.

The question is, are populist policies unsustainable — or could some variant of them succeed?

More research would be needed to support the authors' thesis that populist policies could succeed only if they stayed far clear of foreign exchange constraints, emphasized reactivation only for a brief initial period, and then shifted to growth policies.

Most important, expansionary policies must reflect awareness of capacity constraints and must rely for financing on an extremely orthodox fiscal policy and rigorous tax administration. Given those restrictions, there is significant room for the redistribution for which populism aims.

Dornbusch and Edwards conclude by warning that IMF-style policies — unconcerned with growth or social progress — may establish financial stability in the short run, but inevitably open the door to yet another round of destructive reaction in the form of populist policies.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-059, extension 61588 (64 pages with charts and tables).

317. Price and Quality Competitiveness of Socialist Countries' Exports

Zdenek Drabek and Andrzej Olechowski

The centrally planned economies sell exports of raw materials, food, and some manufacturing goods at world market prices. Most of their exports of manufactured goods are underpriced — mostly because they are inferior in quality.

Drabek and Olechowski analyzed pricing of the centrally planned economies (CPEs) in the highly competitive export markets of the EC countries in the first half of the 1980s.

They found that the CPEs' export prices were lower than prices in both developed and developing countries. Manufactured goods from CPEs were underpriced an average 31 to 45 percent — even more on some commodities.

Protection in the EC countries is probably not a factor in CPE underpricing of manufactured goods. CPE exports of raw materials, food, and some manufactured goods tended to be sold at world market prices, as one would expect from profit-maximizing firms in competitive markets.

Typically nontariff barriers would raise prices on CPE exports. If the CPEs' exports of manufactured goods were indeed subject to higher levels of protection, as the CPEs often claim, they should have been able to upgrade their manufactured exports and raise their prices. Instead, their prices were lower than their competitors'.

The systematic "underpricing" of manufactured exports could not be also explained by a deliberate policy of CPEs to penetrate Western markets. Detailed analysis of average price ratios and market shares does not reveal any evidence of obvious and systematic "underpricing" of these commodities.

The CPEs' inability to upgrade manufactured exports that are subject to quotas suggests serious quality constraints on exports of manufactured goods. Moreover, the systematic "underpricing" was characteristic for manufacturing exports, which are generally subject to great variations in quality and product differentiation, but not for exports of raw materials and agricultural products, which are generally much more homogenous.

The CPEs appear to underprice their manufactured exports not because of cost advantages that make them more competitive, but because most of their manufactured goods are inferior in quality to their competitors'.

This paper is a product of the Country Operations Division, Asia Regional Office, Country Department II. Please contact Zdenek Drabek, room D8-097, extension 72162 (22 pages with tables).

318. Sovereign Debt Buybacks as a Signal of Creditworthiness

Sankarshan Acharya and Ishac Diwan

In a signaling equilibrium, countries that buy debt back get debt relief. Those that do not buy debt back do not get debt relief.

Why don't all indebted countries promote buybacks (including debt exchanges and debt-to-equity swaps)? Why do some countries promote buybacks only part of the time? And why are debt buybacks the mechanism for debt reduction favored by international public policy?

To solve the puzzle of attitudes toward debt buybacks, Acharya and Diwan use a model that combines considerations of debt overhang with the possibility of asymmetrical information between debtor countries and their creditors.

In this environment, a debt overhang may create disincentives for a country to undertake a worthwhile investment, and debt relief may induce the country to invest and to increase its output, raising future debt repayments.

But creditors cannot directly observe the variables that determine this choice, and in particular, the "impatience rate" of the debtor's government.

Acharya and Diwan show that debt buybacks can credibly reveal a debtor country's willingness to invest and to repay in the future when offered relief today. In equilibrium, countries that buy back debt get debt relief and those that do not buy back debt do not get debt relief.

Acharya and Diwan tested and failed to reject two implications of their model:

- That banks systematically grant debt relief to countries that have a swap program in place.

• That the secondary market price of country debt, conditional on a swap, is higher than the debt price, conditional on no swap.

This paper is a product of the Debt and International Finance Division, International Economics Department. Please contact Sheilah King-Watson, room S8-025, extension 31047 (24 pages with tables).

319. Would General Trade Liberalization in Developing Countries Expand South-South Trade?

Refik Erzan

General trade liberalization in most developing countries would expand South-South trade, and could as well increase the proportion of this trade in their total — particularly if the most heavily protected sectors were liberalized.

For most developing countries, the proportion of (total and manufactured) exports going to other developing countries has steadily increased since the early 1970s.

Earlier, analysts would have seen this as a reflection of inward-looking trade strategies and regional trading arrangements. Until the early 1970s, most of the relatively outward-looking developing countries did (or had a trend in doing) proportionately less trade with other developing countries, particularly in manufactures.

Since the early 1970s, however, an outward orientation has often gone hand in hand with more South-South trade. The proportionate increase in South-South trade occurred despite relatively higher protection in most developing countries against the very products for which they, as a group, have a comparative advantage.

The "slowing down of the engine of growth" greatly affected the direction of developing countries' trade. But the resumption of growth in the industrial countries did not alter the increasing trend in South-South trade. A new international economic environment had begun to develop.

The structure of tariff and nontariff protection in most developing countries discriminates against products that other developing countries could supply competitively. Hence, across-the-board, nondiscriminatory liberalization would generally favor South-South trade — particularly if liberalization focused on the most heavily protected sectors.

This paper is a product of the International Trade Division, International Economics Department. Please contact Grace Ilogon, room S8-038, extension 33732 (63 pages with figures and tables).

320. Protection Facing Exports from Sub-Saharan Africa in the EC, Japan, and the United States

Refik Erzan and Peter Svedberg

Sub-Saharan African countries have suffered relatively little from trade protection in Japan, the European Community, and the United States. This is in part due to the substantive preferential treatment they receive, especially in the European Community, and in part a consequence of the product mix of their exports, heavy in primary goods.

Erzan and Svedberg address two questions in this report:

• Have exporters in Sub-Saharan Africa (SSA) faced more or less protection in Japan, the EC, and the United States than other developing countries?

• To what extent has protection in those markets constrained SSA's export growth?

Erzan and Svedberg find that on the whole SSA suffered relatively little from either tariff or nontariff protection in the major industrial markets.

In part this is because they often get a better preferential treatment, especially in the EC. In part it is because their exports are heavy in primary goods which are generally subject to less protection.

There is no compelling evidence that protection in the major industrial markets has constrained export growth in SSA.

This paper is a product of the International Trade Division, International Economics Department. Please contact Grace Ilogon, room S8-038, extension 33732 (56 pages with tables).

321. Economic and Policy Determinants of Public Sector Deficits

Jorge Marshall and Klaus Schmidt-Hebbel

A framework for determining how much the most important economic and policy variables contribute to the public sector deficit — and for comparing the direct effects of economic shocks with those arising from policy-controlled variables.

Marshall and Schmidt-Hebbel have developed a framework for determining how much the most important economic and policy variables contribute to the public sector deficit.

Their method involves behavioral relations, identities for some key macroeconomic and sector variables, and an accounting breakdown of the consolidated public sector deficit.

This allows one to compare the direct effects of various foreign and domestic economic shocks on the deficit with those arising from changes in policy-controlled variables.

The method is useful for decomposing historical time series of public deficits according to their main determinants — and for carrying out simulation or projection exercises for the level and structure of future deficits.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Susheela Jonnakuty, room N11-041, extension 37453 (54 pages with tables).

322. Earmarking Government Revenues: Does It Work?

William McCleary

Economic theory provides some justification for earmarking. But in practice it has proven difficult to set up earmarking mechanisms that are both efficient and independent, and governments often override earmarking arrangements when they need resources.

"Public choice" economists (Buchanan and others) have shown that, under some circumstances, earmarking can facilitate agreement about additional revenues *and*

expenditures when there is no consensus about raising either separately. Earmarking also may provide some protection for priority programs against shifting majorities, inefficiency, and corruption.

In practice, pricing and taxation arrangements that lead to an appropriate allocation of resources for the service in question — and that are relatively automatic and independent of frequent administrative decisions — are difficult to set up. Under a wide variety of circumstances (such as externalities and nonconstant returns to scale), efficient pricing and taxing would lead to unbalanced budgets for the earmarked fund and hence interdependence with the general budget. In addition, earmarked funds seldom achieve independence because they depend on government for additional, nonearmarked sources of funding or on frequent government decisions about prices or taxes for the earmarked sources. Governments often circumvent the intentions of earmarking by withholding funds or failing to change prices or taxes or, if need be, simply suspending the earmarking arrangements. These problems, and the failure to provide an appropriate balance between recurrent and capital expenditures, lie at the heart of the World Bank's disenchantment with highway funds.

Skepticism about earmarking is justified because in general it hasn't worked very well. Any earmarking scheme should meet a rather formidable set of prerequisites, among which the most important are:

- Is there a substantial overlap of beneficiaries and taxpayers? (Earmarking works best in local government situations and least well where there are strong redistributional or social welfare objectives involved.)
- Is earmarking essential (in addition to benefit charges) to ensure service quality or revenue collection?
- Will the pricing and taxing arrangements lead automatically to the appropriate levels of the service?
- Is there an agency competent to carry out the program and appropriate accounting and auditing to guard against abuse?
- Is there a cutoff date for deciding whether the earmarking arrangements should be continued?

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699 (43 pages with tables).

323. The Old and the New in Heterodox Stabilization Programs: Lessons from the 1960s and the 1980s

Miguel A. Kiguel and Nissan Liviatan

Heterodox stabilization programs can bring down inflation quickly without costing much unemployment in the short run. But costs that appear up front in orthodox programs are delayed in heterodox programs. Tight fiscal policy and a strong nominal anchor are critical to their success in the long run.

Heterodox stabilization programs combine tight monetary and fiscal policies, characteristic of the orthodox approach, with wage and price controls.

Heterodox programs are usually adopted as an alternative to orthodox programs to minimize the costs of bringing down inflation. The heterodox approach can bring inflation down rapidly without large costs in the short run (the easy part of the program). The costs are borne later when the authorities have to concentrate on sustaining low inflation. The magnitude of these costs is not yet clear.

Whether the stabilization program should adopt a gradual or shock strategy depends on the rate of inflation before stabilization. The orthodox shock is most effective for stopping hyperinflation. In economies with chronic, high inflation, a heterodox shock strategy is generally more appropriate.

The quick initial success of heterodox programs increases support for the program, opening the possibility for adding fiscal measures to deepen the stabilization effort.

This opportunity is usually forgone, however. Israel and Mexico introduced further fiscal adjustment during this phase. In the Austral and Cruzado plans (in Argentina and Brazil), the initial success was taken as evidence that more fiscal adjustment was not required (or could be postponed), and the stabilization effort collapsed.

A gradual approach — such as the one used in Argentina and Brazil in the 1960s — is more appropriate for economies with low inflation, where the case for income policies is much weaker.

Tight fiscal policy is critical to the success of a heterodox program — particularly during the flexibilization period in which price and wage controls are removed. In the failures of the 1960s and the 1980s, the budget situation had already deteriorated when controls were removed. A relaxed fiscal stance during the freeze led to a sharp acceleration of inflation later.

It is also important to maintain a strong nominal anchor, before and during flexibilization. In Israel, for example, using the exchange rate as the main nominal anchor during flexibilization helped prevent a rekindling of inflation (at the cost of overvaluing the currency).

The flexibilization period is the most critical time in a heterodox program, but policymakers do not perceive this. The strategy for getting out of the freeze is perhaps the most important and difficult part of a heterodox program. Heterodox programs fail not because income policies are poorly designed but because the fiscal effort does not persist.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 61588 (79 pages with figures and tables).

324. Ethical Approaches to Family Planning in Africa

F. T. Sai and K. Newman

In a world tense with confrontation between North and South on so many issues, it is important that family planning aid offered to Sub-Saharan Africa appear to be a rope to help people — not the "noose" it has seemed in the past.

Africa is the geographical flashpoint for ethical issues about family planning programs. Until recently in Sub-Saharan Africa, advocacy of family planning by non-Africans was unacceptable and by Africans politically inadvisable.

This has changed in the 1980s. The health rationale for family planning is backed by strong evidence, especially in

Africa, where infant and maternal mortality and morbidity rates are high. Population growth in many African countries impedes development, which — however impressive — cannot keep up with needs.

Earlier attempts to offer family planning aid were often politically inept and endangered the needed partnership between donor and developing countries. Theoretical arguments and abstract demographic projections are less persuasive than carefully designed programs geared to the health and well-being of communities that help plan them.

Increased cooperation between donor and developing countries — in transferring technical and financial resources so countries can set up their own sustainable and culturally sensitive programs — has helped resolve some of the ethical difficulties that beset family planning programs.

This concise and eloquent report summarizes many of the practical, ethical, and cultural considerations in making family planning aid acceptable.

This paper, an earlier version of which was delivered at the CIOMS Conference on "Ethics and Human Values in Family Planning" in Bangkok on 19-24 June 1988, is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091 (24 pages with figures).

325. Manufacturers' Responses to Infrastructure Deficiencies in Nigeria: Private Alternatives and Policy Options

Kyu Sik Lee and Alex Anas

This paper presents selected findings from a survey of manufacturing establishments including the costs of private infrastructure provisions and develops policy options for improving the service delivery.

As cities in developing countries grow, the need to meet increasing demand for urban infrastructure services has become an important policy problem. Failure to respond adequately affects productivity and the quality of life in those cities.

To make the Bank's lending programs in this area more effective, greater understanding is needed of: (1) the ways inadequate services affect business and productivity in urban areas, (2) the options for more efficiently providing and maintaining the delivery of various infrastructure services (such as electricity, water, transport, telecommunications, and waste disposal), and (3) potential cost savings from improved services.

Lee and Anas report research responses to such questions (on the demand side) as: How do firms respond to the constraints caused by deficient infrastructure? What alternatives do firms have, and what do they cost? Is the private provision of services a viable alternative to their public provision?

They also report responses to questions on the supply side: What causes failure to deliver adequate services? To what extent are such failures caused by lack of capacity expansion or by poor operations and maintenance? How do inappropriate pricing and user charges contribute to the problem? What options exist in terms of investment, technology, institutions, regulations, and financing?

Based on empirical observations, Lee and Anas suggest policy options for improving the provision of infrastructure services in Nigeria, the first country for which the Bank has undertaken this type of research:

- Regulatory changes to enable fuller use of existing private capacity (for example, allowing the sale of excess private electrical power).
- Participation of the private sector in the supply of infrastructure-related services.
- Pricing policies that are more efficient in the presence of congestion, system failures, and variations (by firm size and location) in the private provision of services.

This paper is a product of the Urban Development Division, Infrastructure and Urban Development Department. Please contact Luisa Victorio, room S10-131, extension 31015 (59 pages with figures and tables).

326. Do Exporters Gain from Voluntary Export Restraints?

Jaime de Melo and L. Alan Winters

The results of the model developed here are a strong indictment of VERs. For most plausible parameter values, VERs redirect exports, reduce the size of industries for which countries have comparative advantage, and cause overall economic losses — especially if the affected industry is large in the market for its factors of production.

Most economic literature concentrates on the rent transfer accruing to exporting countries when a voluntary export restraint (VER) is binding. It suggests that VERs are not very harmful for the exporting country. De Melo and Winters argue that this view is misconceived.

Most work has focused on the welfare loss to the importing country arising from a loss of income transfer combined with a distortionary loss in efficiency. Implicit is the message that the often large rent transfer to the exporting country is likely to compensate for any induced inefficiency losses.

De Melo and Winters study the effects on distribution and efficiency when VERs force factors out of industries in which they are most productive. They develop a general theoretical model that establishes qualitative conditions under which a VER will result in industry contraction, spillovers of exports to unrestricted markets, and losses in national welfare.

They estimate key parameters of supply and demand for leather footwear exports from Taiwan subject to the U.S. Orderly Marketing Agreement, and explore the implications in a calibrated simulation exercise.

The results are a strong indictment of VERs.

For most plausible parameter values, VERs redirect exports, reduce the size of the industry, and cause overall economic losses, especially if the affected industry is large.

This paper is a product of the Trade Policy Division, Country Economics Department. Please contact Maria Ameal, room N10-035, extension 37947 (38 pages with tables).

327. Making Noisy Data Sing: A Micro Approach to Measuring Industrial Efficiency

James R. Tybout

An approach to measuring industrial plant efficiency that recognizes and deals

with data imperfections — including measurement errors, missing observations, and selectivity bias.

Technical, scale, and allocative inefficiency are widely believed to plague the industrial sectors of developing countries. Tybout presents a way to measure this inefficiency with imperfect data.

There is great interest in documenting the patterns and magnitudes of inefficiency, so that appropriate corrective policies can be designed. But most relevant empirical work has been done at the sectoral level. So making accurate measurements and distinguishing between different dimensions of performance is difficult.

Recently micro survey data have become available, so plant-level studies that more directly measure the dimensions of efficiency have begun to emerge. But these studies are often flawed because survey data from developing countries are often rife with measurement error, missing observations, and selectivity bias.

Tybout presents a new approach to analyzing plant efficiency that recognizes and deals with such data imperfections. It should interest students of productivity and technological efficiency in both developing and developed countries.

Tybout has developed full-information maximum-likelihood (FIML) estimators of production technologies that deal with missing data and measurement errors, making alternative assumptions about the missing data patterns and the timing of employment and decisions.

These estimators yield indices of the returns to scale, mean square deviation from the efficient frontier, and — when labor is treated as endogenous — mean square deviation from efficient factor mixes.

To gauge the performance of the alternative estimators, Tybout applies them to census data on Chilean industry, and compares the results with "naive" estimators that do not recognize data imperfections.

This paper, a product of the Trade Policy Division, Country Economics Department, is part of a larger effort in PPR to quantify linkages between trade liberalization and changes in industrial sector performance. It was prepared for the research project "Industrial Competition, Productive Efficiency, and their Relation to Trade Regimes" (RPO 674-46). Please contact Maria Ameal, room N10-035, extension 37947 (31 pages with tables).

328. Europe, Middle East, and North Africa (EMN) Region Population Projections, 1989-90 Edition

Rodolfo A. Bulatao, Eduard Bos, Patience W. Stephens, and My T. Vu

The population of the region is growing at 2.4 percent a year, and should double in about 30 years.

The population of the region is growing at 2.4 percent a year, second only to the Africa region, and should double in size in about 30 years. The Middle East states of Qatar and Oman are growing at 4 percent a year, the highest rate in the world. Regional growth would appear even more rapid were growth in countries like these not offset to some extent by slow and even negative growth in the Eastern and Southern European countries included in the region.

Total fertility in the region, excluding its European part, is above five children per woman, and life expectancies are around 60 years. Replacement fertility, where the average woman only reproduces herself, will not be reached until the middle of the next century. About that time, the region will be contributing more to world population growth than the far larger Asia region.

The projections of fertility and mortality are modeled on recent trends worldwide, and therefore incorporate the effects of deliberate efforts to reduce vital rates in various countries. Although altering projected trends is possible, it would require at least as much demographic intervention as in the recent past — and probably more.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091 (266 pages with tables).

329. Latin America and the Caribbean (LAC) Region Population Projections, 1989-90 Edition

Rodolfo A. Bulatao, Eduard Bos, Patience W. Stephens, and My T. Vu

The Latin America and Caribbean region contributes about 10 percent of the 90 million people added to world population every year. This is slightly greater than its 8 percent share of world population.

To the 5.1 billion people in the world in mid-1988, about 90 million were added in the following year, and about 91 million more will be added by mid-1990. The annual increase will be greater every year until almost the end of the decade.

Latin America and the Caribbean contributes 10 percent of annual world population growth, slightly above its 8 percent share of world population. Although demographically advanced, the region is growing faster than the Asia region.

Previous high fertility, which continues in some countries, has left many young people and high population momentum: even if the young only reproduce themselves, their large numbers ensure that population will grow 60 percent.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091 (238 pages with tables).

330. Africa Region Population Projections, 1989-90 Edition

Rodolfo A. Bulatao, Eduard Bos, Patience W. Stephens, and My T. Vu

The population of the Africa region is growing faster than the population in any other region. It should double in a little more than 20 years.

The majority of populations in the Sub-Saharan Africa region are growing rapidly. In some countries, where the average woman continues to have seven or more births, growth is as rapid as 4 per-

cent a year. The population of the region as a whole is likely to double in slightly more than two decades, and slightly more than two decades after that, the region will be contributing more to annual world population growth than the far larger Asia region.

As a consequence of high fertility, populations are young and dependency ratios are very high, up to three times world minimums. Linked with high fertility are high levels of mortality: in some countries, life expectancy at birth is barely 40.

The region will require a long transition, perhaps centuries, before population becomes stationary. At that point, the region could have six times its present population.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091 (256 pages with tables).

331. Asia Region Population Projections, 1989-90 Edition

Rodolfo A. Bulatao, Eduard Bos, Patience W. Stephens, and My T. Vu

The Asia region has half the world's population and contributes half the world's annual population growth.

Of the 90 million people added to world population this year, half live in the Asia region. Asia's contribution to world population growth is proportional to its size and dwarfs the contribution of every other region. The scale of this contribution may be illustrated by the fact that India is adding to its population every year as many people as live in Australia.

Population growth is slowing for Asia, though quite unevenly across subregions. Three of the five Asia departments are growing at 1.4 percent annually, China is growing at 1.0 percent, and Other South Asia (excluding India) at 1.9 percent.

The dependency burden is exceptionally variable across Asia. A country like Bangladesh has one dependent per person of working age (15-64). Nonborrower, economically vigorous economies like Singapore and Hong Kong have fewer than half as many.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091 (234 pages with tables).

332. Effective Incentives in India's Agriculture: Cotton, Groundnuts, Wheat, and Rice

Ashok Gulati with James Hanson and Garry Pursell

A policy that moves prices closer to free trade levels would shift resources from groundnuts (or oilseeds) into cotton, rice, and wheat — crops for which India has more of a comparative advantage and would earn more in foreign exchange. This would also allow agriculture to compete with industry for investment rupees.

Detailed estimates of effective subsidy coefficients for four crops — cotton, wheat, rice, and groundnuts — yielded the following conclusions about agricultural incentives in India (among others):

Wheat, rice, and especially cotton have been disprotected (in effect, taxed) in the 1980s. Groundnuts have been heavily protected, encouraging a different allocation of resources than under free trade.

The incentive framework generates static efficiency losses and net foreign exchange losses, particularly in areas where the crops compete directly for resources. A policy that moved prices closer to free trade levels would shift resources from groundnuts into crops that would earn more in foreign exchange. This increased output, particularly of cotton, could be used to purchase edible oils — with a net gain in foreign exchange.

Investment programs aimed at increasing cotton, rice, and wheat production appear to have high economic rates of return — higher at the margin than investment in industry. Andhra's cotton is a financially and economically profitable export even at current exchange rates. Investment in rice and wheat would yield high economic rates of return as import substitutes, particularly in areas where subsidies are low. Their financial and economic profitability as exports is, however, more doubtful. The evidence on these major crops suggests that in India (as in other developing countries) agriculture as a whole is underpriced, which produces a bias toward the industrial sector.

Subsidies in Indian agriculture are substantial — about 10 percent of value added for groundnuts and cotton, 25 percent for wheat, and 35 percent for rice — and should be considered explicitly in evaluating incentives for agricultural investment and production.

This paper — a product of the Country Operations Division, New Delhi Resident Mission, and the Trade Policy Division, Country Economics Department — is part of a larger effort in PPR to quantify incentives in agriculture and to analyze the effects of the trade policies of developing countries on the allocation of resources between different crops and between agriculture and industry. Please contact Ghislaine Bayard, room N10-021, extension 38004 (138 pages with tables).

333. An Option-Pricing Approach to Secondary Market Debt (Applied to Mexico)

Stijn Claessens and Sweder van Wijnbergen

This pricing model for secondary market debt is designed to assess the impact of debt reduction on the value of remaining claims and the market value of different types of guarantees.

Claessens and van Wijnbergen present a pricing model for secondary market debt designed to assess the market value of various forms of guarantees and the impact of debt reduction on the value of remaining claims.

Their model is more flexible and realistic than other models. The technique used — option pricing — accounts explicitly for the sources and nature of risks on sovereign debt. By so doing it is possible to assess the market value of various forms of guarantees as well as the impact of debt reduction on secondary market pricing.

The model is extremely flexible in handling different maturity schedules, differences in seniority, and expectations about the availability of foreign exchange and willingness to pay.

Claessens and van Wijnbergen ap-

ply the model to Mexico. They first price the value of a general obligation claim. They then price claims with fixed and rolling interest guarantees. They derive specific market values for general obligation debt and for collateralized exit bonds and show the impact of different debt reduction shemes on the secondary market price. They conclude that the terms of the new bonds are in accord with recent secondary market prices of the existing debt.

The authors show that the three debt restructuring options offered to individual banks are not equivalent if the newly created exit bonds are senior to new-money claims. The new-money option is worth considerably less.

This paper is a product of the Debt and International Finance Division, International Economics Department and the Country Operations Division, Latin America and the Caribbean Country Department II. Please contact Sheilah King-Watson, room S8-025, extension 31047 (21 pages with figures and tables).

334. An Econometric Method for Estimating the Tax Elasticity and the Impact on Revenues of Discretionary Tax Measures (Applied to Malawi and Mauritius)

Jaber Ehdaie

The author develops an econometric technique that deals with shortcomings of existing methods for estimating the tax elasticity and the impact on revenues of discretionary tax measures. He applies this model to Malawi and Mauritius to highlight the roles that discretionary tax measures and economic growth play in effecting the shift from the taxation of international trade to the taxation of domestic transactions.

In reducing the fiscal deficit as part of structural adjustment programs, it is important to be able to project what additional revenues can be mobilized within the existing tax system as GDP grows.

To know if it is necessary to generate more revenues — particularly through politically difficult discretionary tax measures — it is important to be able to estimate the built-in tax elasticity as percentage increases in tax revenue that result from endogenous increases in the base when GDP rises 1 percent.

Existing methods for estimating this elasticity are inadequate, so Ehdaie develops an econometric method for estimating built-in tax elasticity and the impact on revenues of discretionary tax measures.

His dynamic simultaneous-equation macroeconometric model of taxation captures the interaction between GDP, individual tax systems, and individual tax revenues and bases. It requires only time series data on tax revenues, tax bases, and GDP.

Ehdaie's model can also be used to (1) evaluate the macroeconomic impact of a tax reform program and (2) examine various tax-related economic issues.

In this paper, Ehdaie applies this model to the time series data for Malawi and Mauritius to highlight the roles that economic growth and discretionary tax measures play in effecting the shift from the taxation of international trade to the taxation of domestic transactions. His overall conclusions are:

- Discretionary tax measures have been effective in mobilizing resources from the private sector in both countries.
- Individual and overall tax revenues have been inelastic in connection with GDP — except for corporate income tax in Malawi and import tax in Mauritius, whose long-term elasticities exceed one. These two taxes are inelastic in terms of their own tax bases. Imports in Mauritius and value added in the non-agriculture sector in Malawi have grown faster than GDP.
- The domestic consumption tax had more built-in elasticity than import tax in Malawi; in Mauritius, the domestic consumption tax fell short of the import tax. Because of these structural differences, economic growth has fed the shift from taxing imports to taxing domestic transactions in Malawi; it has reversed the shift in Mauritius. Without economic growth, both countries would shift from taxing imports to taxing domestic transactions.
- In both countries, discretionary tax measures have contributed more to the trend toward domestic consumption tax than to the trend toward import taxes.
- In Malawi, economic growth and discretionary tax measures have played almost equal roles in the shift from taxing international trade to taxing domestic transactions. In Mauritius, economic growth has been the principal factor in reversing this shift.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PPR to study the fiscal aspects of structural adjustment. It proposes a method for estimating the additional revenues that might be mobilized within the existing tax system as GDP grows. Please contact Ann Bhalla, room N10-059, extension 37699 (90 pages with figures and tables).

335. Macroeconomic Adjustment and the Labor Market in Four Latin American Countries

Ramon E. López and Luis A. Riveros

Expanding wage differentials during adjustment imposes a greater burden on the poorest workers, making adjustment policies less sustainable politically. And nominal devaluation is probably ineffective with a segmented labor market. Deregulating the labor market makes adjustment programs more effective and equitable.

Implicit in standard macroeconomics of adjustment is the assumption of well-integrated labor markets that are responsive to relative prices.

But segmentation of the labor market is usually said to be an important source of labor market rigidities. In particular, if segmentation involves different degrees of real wage rigidity among different groups in the labor force, nominal devaluation may be ineffective and inequitable in its impact.

Lopez and Riveros use a model of labor market segmentation in which regulations are necessary to distinguish between the formal and informal sectors.

Using standard econometric techniques to estimate four simultaneous equations, they examine the effect of devaluation on relative wages in Argentina, Chile, Colombia, and Uruguay.

They found that formal wages are more responsive than informal wages to inflation and that devaluation of the exchange rate, by increasing the wage gap, is a source of sluggish labor mobility.

They also found that expanding wage differentials during adjustment imposes

a greater burden on the poorest workers, making adjustment policies less politically sustainable.

In addition, they found evidence to support the hypothesis that nominal devaluation would probably be ineffective with a segmented labor market.

This paper is a product of the Trade Policy Division and the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Luis Riveros, room N11-061, extension 37465 (41 pages with tables).

336. Input Tariffs and Duty Drawbacks in the Design of Tariff Reform

Arvind Panagariya

What is the combined effect on welfare of tariff reductions on final goods, small tariffs on inputs, and duty drawbacks on exports? What is the effect of a duty drawback in the presence of input tariffs?

In recent years, many developing countries have lowered tariffs on final goods to promote economic efficiency. This change produces a revenue loss. In countries with undeveloped domestic tax bases, the search for more revenue invariably leads to an increased tariff on inputs. As the initial tariffs on inputs tend to be low, this increase, complemented by duty drawbacks, is expected to improve welfare.

Panagariya systematically analyzes the welfare effects of tariffs on inputs combined with duty drawbacks. He concludes that:

- Tariffs on inputs, if unaccompanied by duty drawbacks on exports, have an ambiguous effect on welfare.
- In a two-good model, a tariff on inputs combined with a duty drawback on exports improves welfare. In a multi-good model, a small tariff on inputs, combined with a duty drawback on exports, improves welfare provided excess demand for imports is substitutable for exports that use the inputs.
- The effect of a *large* tariff on the input, combined with a duty drawback on exports, is ambiguous in a multi-good model but a case can be made for improved welfare. (The last two results are reinforced if tax revenue is held fixed.)
- Given tariffs on both inputs and final imports, introducing a small duty drawback improves welfare provided the final import is substitutable for the export good using the input.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to study the design of tariff reform. Please contact Karla Cabana, room N10-037, extension 37946 (22 pages).

337. Projecting Mortality for All Countries

Rodolfo A. Bulatao and Eduard Bos
with Patience W. Stephens and My T. Vu

New procedures for projecting mortality in each country modestly change previous mortality projections.

As part of its worldwide population projections, the Bank annually provides projections of mortality in each country. Bulatao and Bos reviewed and updated those procedures.

Basically, mortality has been projected by first projecting male and female life expectancy according to standard schedules and then choosing life tables (which give the age pattern of mortality) for successive periods to give the desired sequences of life expectancy levels.

Bulatao and Bos present new procedures for projecting short-term (one or two decades) and long-term (one or two centuries) mortality rates. These procedures involve calculating rates of change for and separately projecting male and female life expectancy and infant mortality and then selecting appropriate model life tables.

Bulatao and Bos derived the approaches to projecting life expectancy and infant mortality from analysis of data for developed and developing countries.

For female life expectancy, alternative maxima of 82.5 and 90 years are used in defining logistic functions for increase over time. Male life expectancy is currently 6.7 years lower than female life expectancy in developed countries, and this differential is assumed to apply at the maximum.

In the short term, the rate of change in life expectancy in a particular country can be predicted from its rate of change in the previous five years and from female secondary enrollment. For the longer term, alternative logistic functions are defined to give medium, rapid, and slow improvements in life expectancy.

The infant mortality rate can also be represented by alternative logistic functions that allow the rate to decline to either 6 or 3 per thousand. In the short term, the trend can be predicted from the previous trend. For the long term, Bulatao and Bos define a medium trend and alternative rapid and slow trends.

"Split" life tables can be chosen from the Coale-Demeny models, using the infant mortality rate to determine which level to use for mortality at younger ages, and life expectancy to determine which level to use for older ages.

Changes from previous mortality projections resulting from these new procedures are mostly modest. Projected life expectancies generally stay within a few percentage points of older projections. Infant mortality and crude death rates vary somewhat more. Projected population is affected only slightly; a 2 percent change is close to the maximum effect.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department. Please contact Sonia Ainsworth, room S6-065, extension 31091 (30 pages with figures and tables).

338. Bank Lending for Divestiture: A Review of Experience

Sunita Kikeri

Divestiture, often used as a synonym, is only one aspect of privatization. Bank involvement has been timely and supportive, but experience indicates that the design and implementation of divestiture are complex and time consuming due to a web of contextual and practical factors.

After reviewing Bank support for divestiture in 70 operations in 35 countries, Kikeri concludes that divestiture operations are best tailored to country conditions. Other conclusions reached in this review of Bank experience:

Sometimes divestiture yields minimal results. For example, small and medium-sized public enterprises (PEs) may

be divested, reducing the government's burden (and increasing revenues) little; partial divestments may mean continued government interference; governments may assume liabilities higher than the sale price; or new investors may be given privileges and monopoly rights that produce more inefficiency. Kikeri spells out appropriate criteria and methods for better divestiture design and implementation.

Sometimes (especially in Sub-Saharan Africa) the best policy may be to improve the environment in which PEs function, avoiding an overemphasis on divestiture. Ownership changes are only one element of broader PE reform, the implementation of which could create a better climate for divestiture later. And the threat of divestiture could improve PE efficiency.

The Bank could assist by spelling out the institutional set-up for managing divestiture. Some guiding principles: avoid overbureaucratization by limiting the number of institutions involved; ensure quick access to top decisionmakers; make available the necessary technical expertise; set up guidelines for the disposition process. Kikeri describes how the Bank can help as countries progress to more complex divestitures.

Meanwhile, divestiture can be staff-intensive where the program is large — and Bank staff shortages must be addressed at the management level.

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) review past efforts in institutional development, (2) determine where these efforts have succeeded and where they have done poorly, and (3) 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 (43 pages with graphs and tables).

339. Private Investment and Macroeconomic Adjustment: An Overview

Luis Serven and Andrés Solimano

This paper reviews current investment theories, recent models linking macroeconomic policies and private investment, and the effect of uncertainty and credibility on irreversible investment decisions. Empirical studies on the subject are also reviewed, and the general implications of this literature for the design of growth-oriented adjustment programs are discussed.

Serven and Solimano review the literature on the macroeconomic determinants of investment, paying particular attention to the transmission mechanisms and likely effects of different macro policies on private investment.

What are the links between adjustment, investment, and growth? Correcting macro imbalances and achieving macroeconomic stability are prerequisites for achieving sustained growth. A strong response from private investors to incentives introduced as part of an adjustment program is crucial if the stabilization effort is to be followed by sustained growth.

Through what transmission mechanisms do macroeconomic policies affect private investment? Serven and Solimano discuss how different macro policies affect the variables — the real interest rate, the market price of installed capital, and the price of new capital goods — that influence the profitability of capital. Demand conditions and the availability of real credit also influence how macroeconomic policies affect investment.

Serven and Solimano recommend more research in two areas:

- To improve the design of macroeconomic stabilization policies consistent with the resumption of growth, more research is needed on the implications for private investment of (a) fiscal adjustment (especially cuts in public investment) (b) changes in the exchange rate, and (c) monetary restraint under alternative financial market arrangements.
- A high research priority should be the development of models suitable for the *empirical* study of irreversible investment under uncertainty, a relevant issue for understanding the lack of investment response to incentives under unstable macroeconomic conditions. More work is also needed on the investment consequences of policy credibility, and the policy implications of the link between credibility and sustainability.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Emily Khine, room N11-055, extension 37462 (42 pages with charts).

340. Prudential Regulation and Banking Supervision: Building an Institutional Framework for Banks

Vincent P. Polizatto

To establish an effective program of banking supervision and prudential regulation, the public policy role of bank supervision must be clearly defined and understood and actions taken along several parallel tracks to strengthen the bank supervisory process, the legal framework, accounting and auditing, and the institutions themselves.

Economic deregulation and financial liberalization are important for a country to develop a viable and robust financial system. But deregulation will remove the protections previously afforded the banking system. Increased competition, a changing price structure, new market entrants, and other factors will increase the risks banks assume and the instability of the financial system. The failure of a large bank or multiple bank failures may force a sudden contraction of the money supply, a failure of the payments system, a severe dislocation of the real economy, and real or implicit obligations on the part of the government.

So, the government's goal to ensure the stability of the financial system is of paramount importance. Prudential regulation and supervision are designed to remove or lessen the threat of systemic instability. In addition, the safety and soundness of the banking system must be supported by an adequate legal framework governing a bank's contractual relationship with its customers. Satisfactory accounting and auditing standards are also crucial to ensure that financial

statements adequately reflect each financial institution's condition.

Different countries have adopted different models of bank regulation and supervision. In some cases, the basis is consultation and moral suasion, in others, "hands-on" verification through on-site inspection. Organizational approaches also vary from country to country. But no model will be effective if significant political interference is permitted.

The primary line of defense against banking insolvency and financial system distress is the quality and character of management within the banks themselves. Therefore, efforts to strengthen the financial system must also focus on strengthening management and management systems through a process of institutional development.

This paper, a background paper for the 1989 World Development Report, is a product of the Office of the Vice President, Development Economics. Please contact the World Development Report office, room S13-060, extension 31393 (33 pages).

341. Cost-of-Living Differences between Urban and Rural Areas in Indonesia

Martin Ravallion and Dominique van de Walle

This model shows that in a neighborhood on the poverty line, an urban-rural cost-of-living difference of about 10 percent is closer to the truth than the values (as high as 66 percent) used in past work on Indonesia. The relative cost of urban living increases with income.

It is commonly assumed that the cost of living is much higher in cities than in the country because housing rents are higher in urban areas and food staples cost more. This assumption has important implications for sectoral comparisons of welfare levels and distributions.

Ravallion and van de Walle suspected that comparisons of housing rent and food prices overstate the cost-of-living differential. For one thing, the quality of dwelling stock is better on the whole in urban areas, reflecting income differences. For another, the urban consumer is able to stubstitute in favor of other goods and services which do not cost any more in urban areas.

Ravallion and van de Walle present a tractable empirical method for estimating spatial cost-of-living differences that can deal with these problems. Hedonic rent indices are used as the prices for housing in an AIDS demand model, the calibration of which permits one to retrieve the parameters of the consumer's cost-of-utility function. They apply this method to a large set of household data for Java.

They find that the true cost of living in cities is substantially overestimated by conventional methods. This is more pronounced at low incomes, since the marginal cost of utility is larger (relative to expenditures) in urban areas — implying that the relative cost of urban living increases with income.

In a neighborhood on the poverty line, the results suggest (allowing solely for the difference in price vectors) that an urban-rural cost-of-living difference of about 10 percent is closer to the truth than the values (as high as 66 percent) used in past work on Indonesia.

This paper is a product of the Agricultural Policies Division, Agriculture and Rural Development Department. Please contact Cicely Spooner, room N8-039, extension 30464 (25 pages with tables).

342. Human Capital and Endogenous Growth in a Large-Scale Life-Cycle Model

Patricio Arrau

Life-cycle models of growth can yield a negative relation between population growth and income per capita growth, where the direction of causality goes from the exogenous rate of population growth to the endogenous rate of income growth. Tax policy can affect the proportion of human and physical capital in household portfolios. Tax policy that favors human capital over physical capital produces higher growth in per capita income.

Most models of economic growth are infinite horizon models that neglect the role of human capital in shaping life-cycle variables. Arrau introduces training decisions in a life-cycle model (the Auerbach-Kotlikoff simulation model) to study the role of human capital both in life-cycle behavior and as an engine of growth.

All the models of growth we have accumulated by studying aggregate models of growth could be greatly enhanced by studying models of growth at a more disaggregated level, he concludes.

The crucial assumption about growth of Arrau's model is that new generations are endowed with the average level of skills available when they were born.

He studies the impact of demographics and taxation on the endogenous rate of growth. Population growth affects the age distribution of the population and the equilibrium spillover that sustains growth.

Unlike what happens with infinite horizon models, this model shows per capita income growth and population growth to be inversely related. Unlike what happens with recent fertility-based models, this model shows the direction of causality to go from exogenous population growth to endogenous economic growth.

To forgo consumption, households hold human and physical capital. Tax policy can affect the proportion of these assets in household portfolios. Tax policy that favors human capital (as opposed to physical capital) translates into higher per capita growth in income.

This paper is a product of the Debt and International Finance Division, International Economics Department. Please contact Sheilah King-Watson, room S8-025, extension 31047 (42 pages with figures and tables).

343. Policy Determinants of Growth: Survey of Theory and Evidence

William R. Easterly and Deborah L. Wetzel

The efficiency of investment is as important as the level of investment in determining growth performance. Policies that make investment more efficient and reduce distortions in resource allocation generally encourage growth.

After exploring the literature on economic growth, Easterly and Wetzel arrive at two broad conclusions:

- The efficiency of investment is as important as the level of investment in determining growth performance.
- Keeping to a minimum the distortion of resource allocation by government

policies makes saving and investment more efficient and promotes long-term economic growth. Policies that contribute to the efficiency of investment and that lower distortions in resource allocation will thus generally encourage growth.

Policies that promote investment, liberalize trade restrictions, and remove distortions in financial markets are likely to raise a country's long-run rate of growth. But more research is needed to formulate structural models of growth that give clear guidance on the effect of various policy measures.

Most of the empirical work on growth does not address the issue of transitions to higher long-run growth paths that would result from policy changes. We cannot easily dismiss transitional effects as irrelevant.

Much work has been done on the determinants of long-run growth but the most important issues remain unresolved.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 61588 (36 pages with tables).

344. Policy Distortions, Size of Government, and Growth

William R. Easterly

The dialogue that advocates of liberalization have with policymakers would improve if more were made of the structural factors that influence the effect of reducing distortions on growth.

Easterly analyzes the structural relationship between policies that distort resource allocation and long-term growth.

He reviews briefly the Solow model in which steady-state growth depends only on exogenous technological change. Policy distortions do affect the rate of growth in the transition to the steady state in the Solow model. But growth falls off so rapidly in the Solow transition as to make it unsatisfactory as a model of long-term growth, even over periods as short as a decade.

Easterly proposes an increasing-returns model in the spirit of the new literature on economic growth. With increasing returns, endogenous economic variables — and thus policy — will affect the steady-state rate of growth.

Easterly's model gives output as a linear function of total capital, but a decreasing function of each of two types of capital. The distortion is defined as a policy intervention that increases the cost of using one of the types of capita. The relationship between this distortion and steady-state growth is negative but highly nonlinear. At very low and very high levels of distortion, the effect on growth of changing the distortion is close to zero.

Changes in structural parameters of the economy — the elasticity of substitution between the two types of capital and the share of nondistorted capital in production — will significantly affect the impact of the policy distortion on growth.

Easterly extends the model to an analysis of the relationship between the size of government and growth by treating the distortion strictly as a tax on one form of capital. The tax revenue is used to finance the acquisition of productive government capital. There is then a tradeoff between two forms of distortion — one resulting from distortionary taxation and the other from insufficient public capital.

Increasing the tax from zero has a positive effect on growth, but with further tax increases the relationship will eventually turn negative. Tax revenue ("size of government") as a function of the tax rate will be given by a Laffer curve. Growth still remains above a certain minimum as the tax rate gets arbitrarily large.

The relationship between tax revenue and growth for alternative tax rates can be positive, negative, or zero. The same is true of the relationship between public and private investment. Changes in the share of tax revenue devoted to capital accumulation ("government saving") will affect the results.

The results suggest that simple linear relationships between distortions and growth, or between size of government and growth, are untenable. The dialogue between advocates of liberalization and policymakers could be enriched by recognizing the structural factors that influence the effect of lowering distortions on growth.

Easterly's model shows that reducing the distortions does not have an equal effect on growth in all circumstances. The effect depends on how flexible the economy is (the elasticity of substitution), how large the share of the factor being penalized in production is, and how high the distortions are initially. Small changes in either very low or very high levels of initial distortions have a minimal effect on growth.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. Please contact Raquel Luz, room N11-057, extension 61588 (44 pages with figures and tables).

345. Private Transfers and Public Policy in Developing Countries: A Case Study for Peru

Donald Cox and Emmanuel Jimenez

Private transfers within households are affected by such public subsidy programs as social security and health coverage. It is important to monitor this relationship since the impact of these programs, as well as who benefits from them, are also affected.

Private interhousehold cash transfers are an important source of income in many developing countries. Cox and Jimenez' review of the lieterature indicates that the percentage of households receiving private transfers in a sample of five developing countries ranges from 19 to 47 percent. The amounts transferred are not trivial — they constitute from 2 to 20 percent of income among all households, and 10 to 46 percent of income among recipient households.

Although precise transfer patterns are only beginning to be researched, Cox and Jimenez review the preliminary evidence from other studies and conduct original analysis based on the recent Peru Living Standards Survey. The paper reveals that private transfers are being directed toward vulnerable groups in society. The poor, the elderly, the very young, the disabled, the unemployed, and female-headed households all receive disproportionately more transfers than their share in the population. The results can be dramatic and can do more for the poor than public transfer programs. For example, in Peru, the lowest income quintile's share in total income is increased by 14 percent as a result of private transfers. In contrast, public transfers (mostly social security payments) increase that quintile's income share by only 4 percent.

These transfers are important to consider when making policy that is directed toward certain groups. Increased public spending on, say, pensions or health benefits, could lower private spending. For example, altruistically minded middle-aged households may not give as much to their elderly parents if they know that the state would take care of them. The program could have the unintended effect of transferring purchasing power to the private donor. Also, the value of the public program's benefits accruing to intended beneficiaries would be lower than the amount of the public transfer. Cox and Jimenez provide a conceptual framework to show that these displacement effects become less important if households are also motivated by the expectation that they will get something in exchange, rather than by pure altruism.

Although such private adjustments do offset the impact of public programs, the empirical evidence indicates that it would not completely eliminate them. For example, in Peru, Cox and Jimenez estimate the amount that private transfers from young to old would be raised if social security payments were eliminated. The answer? Private transfers would rise by about 20 percent, but would not completely compensate for the elimination of social security payments. The displacement effect of private transfers is less than that predicted by the purely altruistic model.

This paper is a product of the Public Economics Division, Country Economics Department. Please contact Ann Bhalla, room N10-059, extension 37699 (98 pages with figures and tables).

346. India's Growing Conflict between Trade and Transport: Issues and Options

Hans Jürgen Peters

India's trade performance will deteriorate if it does not adapt to the changing environment in international trade and distribution logistics.

Containerization and multimodal transport arrangements are key features of the radical restructuring of transport logistics in international trade in recent years.

To increase trade, India must tie into this highly organized international trade logistics network — but it has been totally unprepared to cope with the demanding arrangements common among its major trade partners. Peters recommends the following agenda for reform:

- Prepare a strategy for tying into international trade and transport logistics, particularly through containerization. This means organizing India's fragmented systems planning, control, and management, and involving the private sector in organizing logistics networks.
- Create a joint public-private sector task force to establish an agenda for market surveys and system analyses to identify system shortcomings and needs.
- Develop and manage efficient subsystems for shipping, railway, road, and air transport sectors as well as port and warehouse systems.
- Lift import duties on vital equipment and spares.
- Revise the regulatory and control net that now strangles transport. Above all, simplify customs procedures.
- Adapt trade-related banking and insurance arrangements.
- Promote the national freight forwarding industry by relaxing regulations that govern it.
- Encourage the participation of the private sector, particularly through equipment leasing and privatization of such facility operations as container terminals.

This paper — a product of the Transport Division, Infrastructure and Urban Development Department — is part of a larger effort in PPR to establish an effective framework for helping developing countries adjust to changing distribution logistics practices in international trade markets. Please contact Teresa Lim, room S10-029, extension 31078 (49 pages with tables).

347. Housing Finance in Developing Countries: A Transaction Cost Approach

Robert M. Buckley

Reducing transaction costs in the housing sector would make financial systems more efficient and reduce economic distortions in most developing countries.

In most developing countries, relatively little mortgage credit is supplied voluntarily, mainly because of the high transaction costs associated with enforcing contracts.

In most countries, the supply of mortgage credit is restrained more by the cost of post-contract governance than by the cost of producing contracts.

This distinction is important because before-contract costs are dictated by technological conditions — that is, the nature of the production function — so little can be done to change them. The costs of governance, on the other hand, are more amenable to change. If there are significant gains from reducing these costs, institutional reforms may help realize them.

In the lowest-income countries, the before-contract transaction costs of providing housing finance are probably high enough per loan dollar that low levels of demand explain the relative smallness of the housing sector.

In most other developing countries, housing finance systems could grow more spontaneously and rapidly if there were more effective post-contract enforcement procedures. This growth would improve the efficiency of financial systems and reduce distortions in the economy — so the economic benefits of reducing housing transaction costs are likely to be significant.

This paper, a background paper for the 1989 World Development Report, is a product of the Office of the Vice President, Development Economics. Please contact the World Development Report office, room S13-060, extension 31393 (34 pages with figures and tables).

348. Recent Trends and Prospects for Agricultural Commodity Exports in Sub-Saharan Africa

Takamasa Akiyama and Donald F. Larson

Sub-Saharan Africa's export dependence on coffee and cocoa has increased, but without policy changes to boost these and other agricultural exports, the region can expect only slow growth in its agricultural income terms of trade.

Sub-Saharan African countries have seen sharp declines in their shares of agricultural export markets. But their export dependence on the most important crops

— coffee and cocoa — has increased. Comparisons in the region and with countries outside the region show the importance of appropriate exchange rates and producer pricing policies, as well as support for technological advancement, for good performance in these sectors. Some countries have successfully introduced changes in these policy areas. Changes are also needed in domestic marketing systems to enable flexible responses to market demands in such areas as quality.

For their major agricultural export products — coffee, cocoa, cotton, groundnut oil, palm oil, sugar and tobacco — prospects for world market growth and for increases in Sub-Saharan Africa's market shares are generally only fair. So, without further policy changes to improve performance, the regions' agricultural income terms of trade for these commodities is expected to recover only slowly from the sharp decline after 1985.

This paper is a product of the International Economics Department, International Commodity Markets Division. Please contact Dawn Gustafson, room S7-044, extension 33714 (58 pages with figures and tables).

349. How Indonesia's Monetary Policy Affects Key Variables

Sadiq Ahmed and Basant K. Kapur

Because of unrestricted capital movements, interest rate parity conditions prevail in Indonesia. To some extent, inflation can be reduced by slowing the growth of money. A managed float is appropriate for maintaining a competitive exchange rate. And real depreciation is needed to compensate for unanticipated decline in oil income.

The movement toward greater trade liberalization in Indonesia has generated debate about the effect of monetary policy on interest, inflation, and exchange rates.

Admitting the limits of using a short-run model, Ahmed and Kapur report the following findings of their econometric analysis:

Unlike many developing countries, Indonesia has an open capital account. Its monetary policy must therefore be coordinated with other policies aimed at managing the balance of payments — in particular, policies on interest rates.

In the short term, monetary policy can be used to protect domestic interest rates from the destabilizing influence of speculative capital flight. In the long run, monetary policy can help lower domestic nominal interest rates by maintaining low inflation and dampening expectations about depreciation. The potential for reducing interest rates through monetary expansion is limited.

Domestic inflation is partly a monetary phenomenon but structural factors also affect it. The main structural variables are the domestic price of imports and the price of rice (used as a proxy for wage adjustments). The effects of international inflation are immediate and strong; the effects of wage pushes are smaller and less immediate.

Inflation can be reduced to some extent by slowing the growth of money — which strengthens the secondary influence of a slower crawling exchange rate.

A managed float is appropriate for maintaining a competitive exchange rate, given the gap between world and domestic inflation caused by structural and monetary factors. Real depreciation of the exchange rate will be necessary to compensate for unanticipated decline in oil income (from lower than expected oil prices).

This paper — a product of the Country Operations Division, Asia Regional Office, Country Department V — seeks to determine the appropriate management of macroeconomic policies and their impact on key macroeconomic variables in developing countries. Please contact Joyce Rompas, room A10-023, extension 73723 (26 pages with graphs and tables).

350. Legal Process and Economic Development: A Case Study of Indonesia

Cheryl W. Gray

Risk and information costs affect many characteristics of the legal process in developing countries. Two opposing models — formal and informal — show how these countries use different means to handle legal functions.

Westerners often complain that laws are not enforced in developing countries. "Good" laws are on the books, but in reality individuals and firms evade them with impunity. For example, taxes are uncollected, bankruptcy laws unenforced, environmental controls ignored, and trade restrictions evaded. Furthermore, corruption often flourishes in government despite repeated condemnation by public leaders. How can these patterns be explained? Are the legal systems of these countries in chaos? Or do they just work in other ways, more obscure to Western eyes?

This paper tries to unravel the nature of legal processes in developing countries and explain how and why they may differ from legal processes in more advanced nations. Gray identifies three broad functions of a legal system and introduces the central theme of the paper — how risk and information costs affect many of the characteristics of the legal process.

She next proposes two opposing models — the "formal" and the "informal" — to illustrate different means by which legal functions can be handled. While these models are presented as contrasting alternatives for purposes of exposition, neither pure prototype exists in practice. Real life is always some mixture of the two, with the balance shifting from country to country.

Gray then describes formal and informal legal processes in Indonesia, using the Indonesian tax system as a case study.

This paper, a product of the Office of the Vice President, Development Economics, is part of a larger effort in PPR to understand the regulatory and legal framework underlying market systems in developing countries. Please contact Bilkiss Dhomun, room S9-037, extension 33765 (39 pages).

351. The Savings and Loan Problem in the United States

Stanley C. Silverberg

The institutional arrangements for U.S. savings and loan institutions were a disaster waiting to happen. Recent economic events and government policies made it a big disaster. Developing countries can learn some important lessons from this experience.

Before the late 1970s, U.S. savings and loan institutions (S&Ls) were primarily mutually-owned institutions with limited management capabilities, limited investment options, and virtually unlimited interest rate exposure.

The industry was closely tied to real estate so conflicts of interest and concentrations of credit were accepted. The regulatory-supervisory system was also closely tied to the industry so it had trouble identifying problems and imposing appropriate discipline.

When interest rates escalated beyond imagined levels, this borrow-short, lend-long industry suffered great operating losses, which depleted modest capital levels in many S&Ls. Interest rates and asset prices varied greatly, and S&Ls were constrained in their ability to diversify and hedge against risk. Prudential supervision and regulation were inadequate and were subject to pressures to liberalize the activities of institutions inexperienced in the new activities.

Parts of the industry were allowed to continue operating and assuming new risks despite insolvency. It was difficult for the government and banking authorities to acknowledge these losses and to pursue policies that would bring an end to them, and their delay in doing so increased the costs and distortions in U.S. resource allocation. Losses borne by the economy will be paid for by the general public.

Although the United States has a highly sophisticated and innovative mortgage market that is not found in developing countries, the lessons of its failures in regulating and supervising the savings and loan industry are highly relevant for the many developing countries that suffer from widespread distress in their financial systems.

This paper, a background paper for the 1989 World Development Report, is a product of the Office of the Vice President, Development Economics. Please contact the World Development Report office, room S13-060, extension 31393 (53 pages with tables).

352. Voluntary Export Restraints and Resource Allocation in Exporting Countries

Jaime de Melo and L. Alan Winters

By reducing the marginal revenue of the factors of production, a voluntary export restraint (VER) causes an exporting country's industry to contract. Efficiency losses depend on whether sales can be diverted from restricted to unrestricted markets. A VER is likely to produce a welfare loss if demand is relatively elastic and supply is not.

Most literature on voluntary export restraints (VERs) analyzes the welfare costs of VERs to consumers in the importing country. De Melo and Winters propose a method for measuring the effects of a VER on the productivity of factors employed in the exporting industry.

Their model measures how a VER affects both revenues and efficiency (which may be affected by contraction of output) in an exporting industry. They used the model to estimate the effects of the U.S. Orderly Marketing Agreement (OMA) on Korean producers of leather footwear in 1977-81.

Their econometric estimates indicate a limited ability to redirect sales to unrestricted markets and a sharp fall in the marginal revenue product of factors employed in the Korean leather footwear industry during the period the OMA was in effect.

They found that the marginal revenue product of factors employed in leather footwear declined as much as 9 percent because of the OMA. This estimate was corroborated by time series on output, employment, and wages in the Korean footwear sector.

Based on illustrative counterfactual simulations, de Melo and Winters show that a VER is likely to produce a welfare loss if demand is relatively elastic and supply is not.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to study the effects of quantitative restraints imposed by developed countries on developing country exports (research funded by RPO 672-40). Please contact Maria Ameal, room N10-035, extension 37947 (40 pages with figures and tables).

353. How Should Tariffs Be Structured?

Arvind Panagariya

Should all imports be taxed at uniform rates? Should intermediate inputs be subject to import duties? If so, should duty drawbacks play a role in exports?

Basing his analysis on intuitive arguments, supported by the literature and simple diagrams, Panagariya argues that:

- The introduction of tariffs on intermediate inputs complemented by duty drawbacks is welfare-improving.
- If the objective is to protect the import-competing sector, uniform tariffs will minimize the distortion in production but not in consumption. If the objective is revenue, uniform tariffs will in general fail to minimize distortion in either production or consumption.
- The existence of smuggling, imperfect competition, and economies of scale weaken the case for uniform tariffs. The principal justification for uniform tariffs is their transparency, administrative simplicity, and relatively low level of unproductive profit-seeking activities.
- Considerations of efficiency conflict with considerations of political economy. Ultimately the issue calls for more systematic empirical study.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to study the design of tariff reform. Please contact Karla Cabana, room N10-037, extension 37946 (29 pages with figures).

354. How Commodity Prices Respond to Macroeconomic News

Dhaneshwar Ghura

How commodity prices react to news about macroeconomic variables depends partly on where the economy is in the business cycle. The immediate impact of such news is often different from the one-day-lagged impact — and different for different commodity groups.

Ghura analyzed the immediate, delayed, and group responses of 20 commodity prices in four commodity groups (foods

and livestock, crops, energy, and metals) to macroeconomic "news" (unexpected announcements) in the United States between 1985 and 1989. He found that:

Macroeconomic news generally affects commodities within groups in the same direction — but there is no clear evidence that the prices of largely unrelated commodity groups react in the same way to macroeconomic shocks.

News about inflation indices and the money supply did not have a major effect on commodity prices.

The business cycle must be carefully considered in analyzing the impact of macroeconomic news on commodity prices. Over the long haul, news about macroeconomic variables was unimportant — but many commodities reacted significantly to news when the economy was coming out of a local recession (October 1 to December 31, 1987). When indices of real activity were sending out "noisy" signals, most commodities did not respond significantly to news.

During the recession, unexpected movements in exchange rates appeared to affect the behavior of metal prices, both immediately and after a delay.

The prices of metals and foods and livestock commodities fell after exchange rate appreciation, while prices on most energy products and all crops appreciated. Most of the significant immediate impacts of exchange rate shocks were positive.

It was a different story with the one-day-lagged effect of exchange rate shocks. The delayed effect was positive for metals, foods and livestock, crops and oilseeds, but negative for energy products.

The significant immediate impact of interest rate shocks was positive, as expected. The one-day-lagged effect was negative, except for metals, for which it was positive.

News about real activity was important, especially during the local recession. Several commodities were sluggish in their reaction to such news, however. Most crops and energy products reacted with a one-day lag — but the response of soybeans, soybean products, and wheat was positive and the response of energy products was negative.

[Method: Ghura used survey data to measure the effect of news about macroeconomic variables that are announced periodically (money stock, inflation, and indices of real activity). He used autoregressions to measure shocks to commodity markets for variables (exchange rates and interest rates) whose values are realized on financial and credit markets.]

This paper — a product of the International Commodity Markets Division, International Economics Department — is part of a larger effort in PRE to develop an understanding of the formation of primary commodity prices, in particular their response to changes in macroeconomic variables. Please contact Sarah Lipscomb, room S7-062, extension 33718 (67 pages with figures and tables).

355. The Evolution of Credit Terms: An Empirical Study of Commercial Bank Lending to Developing Countries

Süle Ozler

The spreads on bank loans to developing countries between 1968 and 1981 were far higher for countries with no loan experience than for countries with good non-default records. The cost and difficulty of assessing risk with new borrowers suggests a greater fact-finding and fact-dissemination role for international organizations.

Ozler studied changes in spreads on bank loans to developing countries during 1968-81.

She found that a borrower's experience had a significant impact on spreads. Spreads started at high values at low levels of loan experience and decreased as experience increased. Spreads at initial-experience levels were about 30 percent above benchmark rates and declined to the benchmark, with experience. The impact of experience became negligible with 30 prior loans.

Ozler suggests a greater role for international organizations in collecting and disseminating information about potential borrowers — because of the high initial fixed cost of collecting information about borrowers and the lenders' inability to distinguish different types of borrowers in advance. Indeed, international institutions have been doing more of this fact-finding since the onset of the debt crisis.

The study was based on loan-level data for 1968-81, when the Eurocurrency market was expanding. Data on renegotiated loans were not used. The results are robust to a number of alternative specifications. They are not a consequence of the behavior of spreads over calendar time, but are robust with alternative definitions of experience variables and alternative functional forms.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PPR to investigate the determinants of the terms, conditions, and volume of private-source international financial flows to developing countries. Other related work under way includes a review of the determinants of the volume and destination of foreign direct investment from Germany and Japan, a study of portfolio investment in developing countries, and a study of the determinants of commercial bank decisions in menu-based rescheduling and debt reduction exercises. Please contact Sheilah King-Watson, room S8-025, extension 31047 (31 pages with figures and tables).

356. A Framework for Analyzing Financial Performance of the Transport Sector

Ian G. Heggie and Michael Quick

Here is a framework for analyzing the current financial state of a country's transport sector, identifying and measuring the seriousness of financial problems, and identifying options for improving financial performance and mobilizing revenues for maintenance of transport infrastructure.

Heggie and Quick present a methodological framework for reviewing the financial performance of government agencies responsible for transport.

They apply this framework in a detailed case study in Tanzania (the transport infrastructure — particularly the road network — of which is seriously run down) and on desk studies in 14 other countries. Their findings:

- Revenue administration in Tanzania was weak. Only half of the airport user fees and road user charges were collected.
- The structure of user charges was unduly complicated.

• Expenses were not well controlled.

• Fuel prices were out of line with those in adjoining countries, encouraging smuggling and inefficient use of fuel.

• Transport enterprises were operating without clear financial objectives.

• The financial affairs of these enterprises were being supervised by a ministry that lacked the expertise and authority to do so effectively.

Heggie and Quick outline the steps recommended to strengthen financial performance and describe how their methodology can be used to prepare multiyear forward programs that can be linked to the net cash flow to/(from) government.

This paper — a product of the Transportation Division, Infrastructure and Urban Development Department — is part of a larger effort in PPR to improve policies on pricing, cost recovery, and efficient resource use in transport. A companion report on public expenditure reviews in transport is due to be published shortly. Please contact Wendy Wright, room S10-055, extension 33744 (30 pages with tables plus 32 pages of an annex).

357. Application of Flexible Functional Forms to Substitutability among Metals in U.S. Industries

Ying Qian

A new functional form — the Symmetric Generalized Mcfadden Cost Function (SGM) — is used to estimate substitutability among metals in five U.S. industries.

Qian reports on the use of a new functional form — the Symmetric Generalized Mcfadden Cost Function (SGM) — to estimate substitutability among metals in five U.S. industries. The SGM specification has the advantage of imposing curvature conditions globally on the cost function, thus ensuring that the results satisfy basic, widely believed economic theory.

For the first time, this study assumes separability in estimating an SGM system, and experiments with a "bootstrapping" technique to estimate the standard errors of parameters derived from flexible functional forms. In many cases, the SGM results are comparable to results from an earlier study that used the translog functional form to estimate the demand elasticities of metals with regard to price.

The procedure is also able to distinguish between direct elasticities for particular metals and overall elasticities for metals as a group under the separability assumption adopted for the metals subgroup.

Qian provides empirical evidence of structural change in U.S. industry. A jump in the own-price elasticities of energy during the sample period coincided with a sharp increase in oil prices.

The SGM flexible functional form found aluminum and steel to be complementary in four out of five industries but suggests that they are substitutes in the technically-compensated sense: when total metals use is constant, an increase in the price of one metal reduces consumption of that metal and increases consumption of the other.

Use of the bootstrapping technique provided insights into the stability of the elasticity estimates. The results are promising at the aggregate level when the number of free parameters is not large compared to the sample size. Bootstrapping also clarifies the problem at the disaggregated level where most elasticities are not significantly different from zero.

This paper — a product of the Internatonal Commodity Markets Division, International Economics Department — is part of a larger effort in PRE to investigate the decline since the mid-1970s in the intensity of 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. Please contact Sarah Lipscomb, room S7-062, extension 33718 (41 pages with figures and tables).

358. The Long-Term Behavior of Commodity Prices

Pier Giorgio Ardeni and Brian Wright

The long-term net barter terms of trade between primary commodities and manufactures has been declining 0.6 percent a year.

Most earlier studies of the long-term trend in the net barter terms of trade between primary commodities and manufactures have suffered from statistical shortcomings, argue Ardeni and Wright.

In their analysis, they use a fairly new statistical approach called structural time series, which, they claim, overcomes those shortcomings.

The tests they ran indicate that the deflated commodity price index is a stationary series with a unit root. The derived structural model outperforms ARIMA models in terms of fit and forecasting. They argue against the idea of "structural breaks" in the data which Sapsford, and Cuddington and Urzua found.

Their results support the conclusion that the net barter terms of trade has declined an estimated 0.6 percent a year — a result consistent with that of Grilli and Yang.

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. Please contact Audrey Kitson-Walters, room S7-053, extension 33712 (54 pages with figures and tables).

359. A Survey of Recent Estimates of Price Elasticities of Demand for Transport

Tae H. Oum, W. G. Waters, II, and Jong Say Yong

Since transportation is a derived demand, it tends to be inelastic. Exceptions are discretionary travel and some freight shipments subject to intermodal competition.

Oum, Waters, and Jong review 70 estimates of the price elasticity of demand for transport published in recent journal articles, estimates covering many different transport modes and market situations and employing various statistical methods and data bases.

The authors present figures separately for passenger and freight transport and include estimates of both own-price and mode choice elasticities — in the form of a range and a "most likely"

estimate. They also present some elasticity estimates on demand for gasoline, together with selected cross-price elasticities (the impact on demand for one mode of transport resulting from a change in the price of another). In addition, they include a brief exposition on the different concepts of elasticity — compensated, uncompensated, price, cross-price, and mode choice — and discuss the relations between them.

The authors show that, since transportation is a derived demand, it tends to be inelastic. Exceptions are discretionary travel and some freight shipments subject to intermodal competition. Although the review is confined to estimates of price elasticities, it notes that quality variables are often more important than price, particularly in the air, motor freight, and container markets. Finally, most of the estimates relate to developed countries, reflecting the availability of data, research resources, and domicile of the researchers. The elasticity estimates are nevertheless thought to be relevant to developing countries as well. But since intermodal competition is generally less intense in developing countries, this tends to make transport demand more inelastic, although the lower income levels in such countries may partly offset this effect.

This paper — a product of the Transportation Division, Infrastructure and Urban Development Department — forms part of an ongoing project in PPR on Pricing, Cost Recovery, and Efficient Resource Use in Transport. It assembles empirical evidence on the broad order of magnitude of the price elasticities of demand for transport on the assumption that optimal departures from marginal cost prices are set in relation to the inverse of these elasticities. Please contact Wendy Wright, room S10-055, extension 33744 (34 pages with figures, tables, and appendices, plus 22 pages of an annex).

360. Compounding Financial Repression with Rigid Urban Regulations: Lessons of the Korean Housing Market

Bertrand Renaud

Attempts to restrict the flow of institutional finance to the housing sector in Korea have been compounded by rigid urban physical regulations. The interactions between these two distinct sets of policies have led to serious distortions in the urban investment process. The Korean urban economy has absorbed large populations quickly, but too great a share of housing investment has gone to pay for rapidly rising prices rather than additional physical units. Inequality of access to housing and related real estate assets by various income groups has emerged. Similar unexpected distortions of urban investment resulting from uncoordinated policy decisions in these two policy areas are often present in other economies. They deserve much more attention than they have so far received, particularly in Asia.

Policies of directed credit aim to accelerate economic growth, but inflation can transform such policies into financial repression. Does financial repression drive household savings into the housing market — contrary to the intent of policymakers — thereby accelerating the rate at which housing appreciates?

Renaud's analysis progresses from economic growth policies and directed credit to urban outcomes — the key link being the behavior of Korean households.

The urban performance in Korea has been remarkable compared to many other countries: cities have absorbed large populations quickly and at improving standards. However, there is evidence of underinvestment in urban housing resulting in part from the fact that an important proportion of investment funds went to pay for rapidly rising unit prices rather than additional new units. Lacking an effective housing finance system, an asset-based demand (using the system of "chonse") rather than a loan-based demand for housing has also skewed the size-distribution of output in favor of large new units with increasing crowding at the bottom of the urban markets. The present period is important for the development of housing finance, but liberalization of housing finance without a simultaneous improvement in urban regulations could easily lead a capitalization of the gains from greater financial efficiency into higher housing and real estate prices.

Focusing on the interactions between financial policies and housing policies, Renaud raises several questions: With what kind of economic indicator could one track policy improvements and gauge the extent of investment distortions over time? Do urban policies that aim at orderly physical planning and the protection of scarce farmland compound problems? Could different financial policies produce better outcomes not only for housing but for the rest of the economy? How do housing and financial policies interact?

Is underinvestment in the urban sector the price to be paid for achieving high growth rates? Renaud only raises the issue. To determine what alternative intersectoral allocation patterns might have been feasible — at the same time maintaining high growth — one must analyze national economic growth overall. Cross-country comparisons of Asian countries would also be valuable.

This paper is a product of the Urban Development Division, Infrastructure and Urban Development Department. Please contact Sriyani Cumine, room S10-133, extension 33735.

361. Housing and Labor Market Distortions in Poland: Linkages and Policy Implications

Stephen K. Mayo and James I. Stein

Poland's housing problem is not limited to housing. Government policies that affect housing markets also distort labor markets — at potentially major macroeconomic costs.

Poland's housing and macroeconomic policies have kept investments in housing and urban infrastructure well below typical European levels. Waits of 15 to 20 years for government housing are not uncommon and the stock of housing is 20 percent below housing needs.

Shortages of this magnitude cause distortions that extend well beyond the housing sector, affecting savings, consumption, prices, and the functioning of labor markets — all of which can have major macroeconomic implications.

Mayo and Stein focus on how housing market distortions affect labor markets — how they affect rates of migration, relative wage levels among regions, and, by implication, the productivity of the Polish workforce. Their analysis supports the conclusion that labor markets are distorted by housing market distortions, at potentially major macroeconomic costs.

They conclude with recommenda-

tions for policy reform.

Their thesis is relevant not only in other centrally planned economies but in any economy where government housing market interventions such as rent control or restrictive land use and building regulations prevent housing markets from reaching a competitive equilibrium.

This paper — a product of the Urban Development Division, Infrastructure and Urban Development Department — is part of a larger effort in PRE to evaluate the macroeconomic linkages of the housing sector and, in particular, the macroeconomic benefits of housing policy reform. Please contact Steve Mayo, room S10-135, extension 31013 (31 pages with tables).

362. Urban Property Taxation: Lessons from Brazil

William Dillinger

Brazil has had more luck increasing total property tax valuations *than in increasing property tax* revenues. *The most effective instrument for improving tax collection has no effect on taxpayers who do not intend to transfer their titles.*

Fiscal constraints and efforts to increase local accountability have prompted an interest in increasing revenues from urban property taxes. Although these taxes are the most widely used municipal tax instrument in the developing world, they typically account for less than half of current municipal revenues.

Tax yields can be increased by raising rates or reducing losses from evasion and maladministration. Improving collection not only increases revenues but is fairer to those who pay their fair share. Brazil's experience yields several generalizable lessons on administration and reform:

- One way to keep up with rapidly changing property data is cross-referencing between agencies. In Brazil, the registrar of deeds will not recognize a transaction without a certificate showing that the assessor knows of the sale. This is the only consistently effective enforcement mechanism in a country where the judicial process for collecting civil debts is slow and expensive — but it does not work with taxpayers who have no intention of transferring title.
- To compensate for a shortage of property evaluation skills, Brazil has a simplified form of mass appraisal based on a few easily observable property characteristics.
- Brazil uses construction cost data to calculate unit costs for buildings, which are often understated to evade transfer taxes.
- Brazil uses indexing to counter the effect of inflation.
- In Brazil, tax liability effectively extends to the occupant of a property because of the difficulty of identifying the legal owner.
- CIATA, a nationwide program of technical assistance in evaluation of the tax base, is highly successful. Because of it, total *valuations* are higher, but its impact on actual *revenues* is mixed. Increased valuations are often offset by lower effective tax rates or declining collection efficiency. As a result, the cost of administering the tax is often disproportionate to yields.

This paper is a product of the Urban Development Division, Infrastructure and Urban Development Department. Please contact Luisa Victorio, room S10-131, extension 31009.

363. Paying for Urban Services: A Study of Water Vending and Willingness to Pay for Water in Onitsha, Nigeria

Dale Whittington, Donald T. Lauria, and Xinming Mu

A rapid survey of activities in Onitsha, Nigeria, yielded unexpected insights for water supply planning. For half of what households in Onitsha pay private water vendors each year — to deliver water by tanker truck and bucket — they could support a piped system.

This case study of water vending in Onitsha, Nigeria, provided surprising insights into water supply policy and planning. Most of the 700,000 citizens of Onitsha — an important West African market town — get their water from an elaborate, well-organized water vending system that the private sector created and operates. About 275 tanker trucks purchase water from about 20 private boreholes and then sell it to households and businesses equipped with water storage facilities.

Many of the households that purchase water from tanker trucks resell it by the bucket to individuals who cannot afford large storage tanks or who cannot be reached by tanker truck. Literally thousands of small water vendors sell directly to individuals and also to other water vendors — who carry two 4-gallon tins on their shoulders with a pole and deliver water directly to a customer.

During the dry season, households obtain about 2.96 million gallons a day (mgd) from the water vending system, for which they pay about $28,000. In 1987 the public water utility supplied about 1.5 mgd during the dry season, only half the amount supplied by the water vendors — for which it collected only $1,100 in revenues. During the dry season the private water vending system thus collected about 24 times as much revenue as the water utility. In the rainy season, water vendors still collected 10 times the revenue of the water utility. For half of what households in Onitsha are paying annually to water vendors, they could support the operation and maintenance of a piped system.

Studies like this are very inexpensive relative to the capital costs of urban water projects and should be a standard part of water supply project design and planning in developing countries.

This paper — a product of the Urban Development Division, Infrastructure and Urban Development Department — is part of a larger effort in PRE to develop methodologies for estimating households' willingness to pay for improved water services. Special emphasis is being given in this research program to testing the usefulness and reliability of contingent valuation techniques in developing countries. Please contact Vino David, room S10-119, extension 33736 (34 pages with figures).

364. Financing Urban Services in Latin America: Spatial Distribution Issues

Gian Carlo Guarda

The Bank's approach to urban lending in adjusting economies should be geared to a review of allocation, distribution, and stabilization policies that directly affect fiscal performance.

During a period of severe fiscal constraints, rising popular expectations have made the provision of local services and infrastructure into a major problem for Latin American economies. Rapid urban growth and political democratization caused some 20 percent of general government outlays (8 percent of GDP) to be spent by municipal and regional governments, even at the peak of the 1980s crisis. Most of these expenditures are supported by central government transfers or account for sizable shares of the outstanding public sector deficits.

The main theme of the report is that, in countries undergoing adjustment, the Bank's approach to urban lending should be geared to a review of the national allocation, distribution, and stabilization policies that directly affect the fiscal performance of local economies. Such a review should consider the territorial distribution of fiscal and financial resources to different jurisdictions and the impact of the implicit subsidies.

Bank operations in the urban sector are gradually moving away from "windfall" project loans — which called for ad hoc counterpart allocations to selected cities — and are acquiring a more systemic character by linking external credit to national and regional policies of revenue sharing. Most countries are now revising the regulatory frameworks for such policies, and this offers a promising opportunity of dialogue with borrowers, on which a new rationale could be established for regional and urban development assistance.

The leading focus of this new approach is to ensure that acceptable levels of welfare and efficiency are achieved in all communities, while sustaining local motivation in mobilizing additional resources. Worldwide trends toward political and administrative decentralization make the Latin American experience in this respect especially significant.

The report contains a wealth of country-specific, cross-tabulated information including comparisons with industrial market economies. A few case studies of innovative Bank operations and summary reviews of topical subjects are presented in form of boxes.

This paper is a product of the Urban Development Division, Infrastructure and Urban Development Department. Please contact Armi Lim-Felix, room S10-138, extension 33734 (135 pages with tables).

365. Cost and Benefits of Rent Control in Kumasi, Ghana

Stephen Malpezzi, A. Graham Tipple, and Kenneth G. Willis

This study of Kumasi finds that rent control benefits long-term tenants (not always the neediest) at the expense of landlords and recent movers. Benefits are small relative to their costs. And although most tenants pay less under rent control, they also live in smaller units with fewer services than they might expect in a well-functioning market.

In this study of the housing market in Kumasi — the second largest city in Ghana — Malpezzi, Tipple, and Willis argue that the housing market is constrained not only by rent control but by regulations affecting land, finance, and choice of building design and materials.

Rent control has kept housing very inexpensive for most tenants but landlords have lost returns on their property. As a result, they have withdrawn stock from the rental market for use by their own families and reduced maintenance — and rent on new (and some old) rentals has increased.

Net benefits from rent control are largely unrelated to need. There is some tendency for lower income tenants to get larger net benefits, but they are small compared to their cost. Mainly, long-term tenants benefit most at the expense of recent movers and landlords.

Without rent control, long-term rents of typical existing units would be roughly double what they were in 1986, the authors estimate — but households would also demand more housing services. As it is, most tenants pay less for their units, but live in smaller units with fewer services than they would have in a well-functioning market. Overall, for many tenants the welfare loss from lower quality housing more or less cancels out most of the benefits of lower rents.

Among other options they study with a present value model, Malpezzi, Tipple, and Willis recommend floating up and out of rent control on old units over five years, immediately decontrolling new and upgraded units, relaxing other inappropriate regulations such as building codes and standards, and taking other necessary steps to improve the supply of land, finance, and building materials to encourage private housing investment. But they argue that building a political consensus for decontrol is more important than the choice of method for relaxing controls.

This paper — a product of the Urban Development Division, Infrastructure and Urban Development Department — is part of a larger effort in PRE to study the effects of regulations on key urban markets. This work is part of Bank research project, "Rent Control in Developing Countries (RPO 674-01)." Please contact Luisa Victorio, room S10-131, extension 31015.

366. Inflation, Monetary Balances, and the Aggregate Production Function: The Case of Colombia

Robert Buckley and Anupam Dokeniya

A system of quasi-monetary balances indexed for inflation has helped Colombia's financial system grow. Indexed mortgages — which provided higher yields on deposits than commercial deposits did — helped make Colombia's financial system more competitive. The effects of these financial policies on economic growth are examined.

Buckley and Dokeniya studied the role of real money balances in an aggregate production function of Colombia.

Colombia is a good choice for analysis because it is one of the most extensively studied developing countries in the world — so data are abundant. Indeed, for most developing countries it is not possible to do an empirical study of the effects of financial policy on economic growth.

Although Colombia has experienced high and variable rates of inflation, it has introduced a competitive system of quasi-monetary balances indexed for inflation. The success of this system has been important to the continued expansion of Colombia's financial system.

Indexed mortgages play a role in this system. Rather than deregulate the interest rate on deposits and simply permit a more competitive market for broadly defined monetary balances, Colombia induced more competition.

It introduced indexed mortgages, which provide higher yields on deposits than those available at commercial banks.

In a sense this was like introducing a competitive "Trojan Horse" into the financial system. Other depository institutions had to compete with indexed mortgage lenders for deposits.

According to Buckley and Dokeniya, the effects of finance on the composition of investment patterns was not what mattered. Rather, growth was stimulated by not only permitting but inducing the financial system to be able to minimize the effects of high and variable inflation rates on the cost of monetary balances. Household access to credit for "low-priority" investments played an important part in the process of inducing a cost-reducing, more competitive financial technology, and this technology, in turn, contributed to economic growth.

The forced investment schemes that still litter the financial system may not have made the best use of the resources mobilized by the more competitive deposit system. Still, one can only speculate what might have happened if the resources had not been in the financial system at all.

This paper — a product of the Urban Development Division, Infrastructure and Urban Development Department — is part of a larger effort in PRE to examine the possible broader economic effects of policies designed to improve the efficiency of resource mobilization in the urban sector. Please contact Sriyani Cumine, room S10-137, extension 33735 (43 pages with tables).

367. The Response of Japanese and U.S. Steel Prices to Changes in the Yen-Dollar Exchange Rate

Panos Varangis and Ronald C. Duncan

The yen-dollar exchange rate is not fully passed through in steel prices. Changes in Japanese steel prices lag six months behind changes in U.S. prices.

Import prices in the United States have not responded as expected to large fluctuations in the exchange rate in recent years.

In this study, Varangis and Duncan analyzed the response of Japanese and U.S. steel prices to changes in the yen-dollar exchange rate (the exchange rate pass-through, or the percentage change in import prices as a result of changes in the exchange rate or the exporter's cost of production).

They concluded that:

- The magnitude of elasticity of the pass-through depends on the elasticity of import demand, the convexity of the import demand curve, and the elasticity of the marginal cost of production with regard to output.
- In a competitive pricing market the pass-through is equal to 1 only if marginal costs are constant (supply is perfectly elastic).
- If marginal costs are increasing, the pass-through is less than 1.
- The pass-through can be greater than 1 for both competitive and noncompetitive pricing markets if marginal costs are declining and the import demand curve is very convex.
- If marginal costs are declining fast enough when production is increasing, the pass-through can be greater than 1 even if the demand curve is not convex.
- The yen-dollar exchange rate is not fully passed through in steel prices. When the exchange rate changes, both U.S. and Japanese steel prices change, but whereas U.S. steel producers adjust prices immediately, Japanese steel producers are conservative in pricing decisions. For a while, they absorb much of the dollar depreciation as reduced profits before increasing their prices in U.S. dollars. Changes in Japanese steel prices lag six months behind changes in U.S. prices.
- One implication of this analysis is that devaluation may lead to a shift of resources within the export sector, from sectors with higher pass-through to sectors with lower pass-through. The lower the exchange rate pass-through, the lower the import response may be, as well.

These results cannot distinguish between a perfectly and an imperfectly competitive market situation. To do so would require *a priori* information such as percentage mark-up over time.

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 impact of movements in these prices on the developing countries. Please contact Dawn Gustafson, room S7-044, extension 33714.

368. Reforming State Enterprises in Socialist Economies: Guidelines for Leasing Them to Entrepreneurs

Guttorm Schjelderup

When state-owned enterprises in socialist economies are reformed by leasing them to entrepreneurs — when the state cannot manage its own enterprise efficiently — how can the state evaluate the effectiveness of reform? By measuring the firm's profit level.

Schjelderup discusses the reform of state-owned enterprises in socialist economies by leasing them to entrepreneurs. He recommends lease payments to the state based on fee schedules from the principal-agent literature.

The aim of the principal (the state) in this literature is to get the agent (entrepreneur/lessee) to act in the state's interest. The state does so by rewarding the agents for observed actions and outcomes.

What is the process of evaluation, however, when the reform process is based on the fact that the state is unable to manage its own enterprise efficiently? Clearly, the state has to rely only on observed outcomes.

Despite the state's inability to evaluate actions, outcomes can be judged by a simple measure: the firm's profit level.

Using the firm's profit level as a basis for sharing rules between the lessee and lessor, Schjelderup offers advice on how to structure and implement fee schedules and on the institutional framework they require.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to understand the transitional problem of state-owned enterprises in socialist economies and to suggest reforms consistent with movement towards a market economy. Please contact Ann Bhalla, room N10-059, extension 37699 (33 pages).

369. Cost Recovery Strategy for Rural Water Delivery in Nigeria

Dale Whittington, Apia Okorafor, Augustine Okore, and Alexander Mcphail

Kiosk systems with metered private connections for some households appear to be the most promising way to recover costs and meet consumers' cash flow needs (and counter their reluctance to pay in advance for a service they are not sure the government will deliver). Kiosk systems can provide cheaper, better, and more reliable water than water vendors do.

What economic and polical factors have made cost recovery for rural water systems so difficult in the Nsuuka district of Anambra State, Nigeria? Through in-depth interviews with 395 households in three rural communities, Whittington, Okorafor, Okore, and McPhail learned that households in the region do not want to pay for water in advance or commit themselves to a fixed monthly payment for water. They want the freedom to buy water only when they use it — partly because they do not want to buy water in the rainy season and partly because they want control of their cash flow in the event of more pressing needs. Equally important, they do not trust government to provide a reliable public water supply. They do not want to pay in advance for a service they are not sure they will ever get.

If required to pay a fixed fee every month, households are willing to pay only relatively small amounts for improved services — even less than they are currently paying water vendors. Current arrangements for cost recovery — fixed monthly fees for both public taps and unmetered private connections — are inappropriate. Kiosk systems — or kiosk systems with metered private connections for some households — are the most promising way to improve cost recovery and meet consumers' cash flow needs. Kiosk systems can provide less expensive, more reliable, and better quality water than water vendors do.

It is not yet possible to generalize these results to other parts of Nigeria or other developing countries, but the advantages of kiosk systems and metered private connections are likely to be equally valid in many other places.

This paper — a product of the Urban Development Division, Infrastructure and Urban Development Department — is part of a larger effort in PRE to develop methodologies for estimating households' willingness to pay for improved water services. Special emphasis is being given in this research program to testing the usefulness and reliability of contingent valuation techniques in developing countries. Please contact Vino David, room S10-119, extension 33736 (36 pages with figures and tables).

370. Turkey: Export Miracle or Accounting Trick?

Ismail Arslan and Sweder van Wijnbergen

Was Turkey's recovery from debt crisis an export miracle, as some contend? A consequence of its proximity to the Middle East? Or just an accounting trick — the result of a shift from underinvoicing to overinvoicing? Or a response to sound export incentives and exchange rate policy?

Alone among major debtor countries, Turkey substantially lowered its debt-export ratio — by more than a third between 1980 and 1987. But the driving force behind the Turkish export miracle — indeed, its very existence — have been a matter of debate.

Some contend that Turkey's export boom had little to do with export incentives or exchange rate policy but was mostly a consequence of Turkey's proximity to the Middle East. Others claim that export growth reflected a shift from underinvoicing before 1980 toward overinvoicing afterward — a product of accounting tricks in response to changing incentives to be truthful about export receipts.

If what happened to Turkey is spillover from its proximity to the Middle East, there is little other countries can learn from the experience. And if export subsidies were behind Turkey's export growth, are GATT and free trade maybe being overpromoted? What pulled Turkey out of debt?

Using an econometric model, Arslan and van Wijnbergen assessed the contributions of various factors to the Turkish export miracle, whose existence they confirm.

Surprisingly, they learn that import growth in the Middle East made a negative contribution to Turkey's 1980-87 export boom. And although there was a switch from underinvoicing to overinvoicing, this accounting trick was nowhere near enough to explain the export miracle.

After extraneous factors such as the oil boom in the Middle East are accounted for, Turkey's export miracle was more than a response to explicit export incentives. It was a result of macroeconomic policies and trade reform that allowed a steady real depreciation of the Turkish lira.

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 (15 pages with figures).

371. Tariff Valuation Bases and Trade Among Developing Countries ... Do Developing Countries Discriminate Against Their Own Trade?

Refik Erzan and Alexander Yeats

Assessing tariffs on a free-on-board (f.o.b.) basis instead of the common cost-insurance-freight (c.i.f.) basis would remove a built-in bias against trade between developing countries. Such a shift would also reduce the general level of tariff protection.

In establishing the value of imports for tariff assessment, most countries apply duties either to the cost-insurance-freight (c.i.f.) or the free-on-board (f.o.b.) value of the traded good.

One effect of using the far more common c.i.f. base is to place a disproportionate burden on countries that have higher freight and insurance costs. Distant countries — or countries that have higher shipping costs for other reasons — not only pay higher transport costs but are further penalized by disproportionate tariff costs that worsen their competitive disadvantage.

The f.o.b. valuation procedure does not penalize exporters for their location, but applies a nominal tariff rate directly to the export costs of each country.

Using tariff and transport cost information for six Latin American countries

(Argentina, Brazil, Chile, Mexico, Peru, and Uruguay), Erzan and Yeats examine the influence of the two procedures on the level and incidence of tariff protection.

They conclude that transport and insurance costs generally put developing countries at a disadvantage (compared with developed countries) on interregional trade and that the relatively high Latin American tariffs on c.i.f. prices further worsen their competitive position.

Thus, despite numerous efforts to establish preferential South-South trade, existing tariffs (for items that do not enjoy regional preferences) actually discriminate against it!

To correct the bias against trade between developing countries, Erzan and Yeats recommend adopting the f.o.b. valuation procedure used by Australia, Canada, New Zealand, and the United States. This change would also reduce tariff barriers considerably.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to assist trade liberalization and reform in developing countries. This study shows that the shift from commonly used cost-insurance-freight (c.i.f.) to free-on-board (f.o.b.) tariff valuation procedures will result in a substantial liberalization of tariffs in developing countries and will also remove an important bias against trade between these nations. Please contact Jean Epps, room S8-037, extension 33710 (27 pages with tables).

372. Long-Term Outlook for the World Economy: Issues and Projections for the 1990s

Shahrokh Fardoust and Ashok Dhareshwar

Deregulation and liberalization of product, labor, and financial markets — together with higher levels of investment and rapid technological advances in industrial and services sectors — should make the 1990s a period of rapid growth in the high-income OECD countries and a number of leading developing countries. But the pattern of international financial flows is likely to perpetuate two tracks of high and low growth in the developing world.

Fardoust and Dhareshwar argue that, at the broad level of global analysis, there are good reasons to be optimistic about the 1990s. First, there are favorable supply-side developments in many of the high-income countries. Per capita real income growth rates in the 1990s are expected to be higher than in the 1980s: higher by about 0.5 percent per year for the industrial countries, and higher by as much as 1 percent per year for developing countries, on average. If there are no major policy mistakes and the international financial markets remain reasonably stable, the remarkable rebound in investment rates observed during the past few years should promote a period of relatively rapid and noninflationary growth in these countries. Second, considerable scope exists for a recovery of private consumption and investment in the debt-stricken developing countries, as well as in Eastern Europe and the USSR. Therefore, while concerns about financial volatility and about current economic slowdown in some of the major industrial countries cloud the world economic outlook in the short run, the long-term prospects for the industrial and leading developing countries are quite favorable.

The 1990s will see a continuation of the process of economic integration currently under way, encompassing mainly the industrialized and the newly industrializing economies, propelled by rapid technological progress and increased competition in international markets, and taking place against a backdrop of policy reforms, economic restructuring, and political liberalization that has been gathering momentum since the early 1980s. Several ongoing economic and political events — principally Project 1992, which aims for a deeper integration of the European Community, the ongoing changes in Eastern Europe and the USSR, and successful completion of the Uruguay Round of trade negotiations — may also act as growth impulses in the 1990s.

In marked contrast to the generally upbeat outlook for the developed world, the prospects are less certain for the developing regions, where performance is more diverse. The major sources of uncertainty are the level and cost of financial flows the developing countries can expect, the degree of their own success in implementing policy reforms and structural adjustments, and the strength of world trade and the extent of openness of the industrial-country markets to developing-country exports.

Given the inevitability of economic shocks, adaptability and economic resilience will be essential for satisfactory performance of the developing countries in the 1990s. With international prices and market structures changing radically, countries that lag behind in economic reform and in making the investments needed for growth are likely to suffer a significant decline in their relative standards of living during the 1990s.

According to Fardoust and Dhareshwa, the expected pattern of international trade and investment flows in the 1990s is likely to perpetuate two tracks of growth in the developing world. While growth may be expected to be high in many Asian industrializing economies, relatively high population growth and low private investment will probably continue to depress living standards in many countries in Latin America and Sub-Saharan Africa. The substantial differences in investment rates of the 1980s between the higher-income and other developing countries will, if not reversed, tend to widen the productivity and technology gap between them.

This paper is a product of the Long-Term Outlook Project in the International Economic Analysis and Prospects Division (IECAP), International Economics Department. The quantification, analysis, and projections in this paper reflect work mainly completed in mid-1989 and draw upon results of the 1988 Unified Survey of Bank Country Economists and various analyses prepared by IECAP. Please contact Jackie Queen, room S7-212, extension 33740 (96 pages with charts and tables plus 7 pages of annexes).

373. Are Better-off Households More Unequal or Less Unequal?

Lawrence Haddad and Ravi Kanbur

Within the framework of intrahousehold bargaining, it is argued that (1) targeting

of transfers to disadvantaged members of the household is important, (2) structural adjustment that favors cash crops over food crops may end up worsening intrahousehold inequality, and (3) as households become better-off, intrahousehold inequality may first increase and then decrease (in other words, there may exist a Kuznets curve for intrahousehold inequality).

In many parts of the world, resources within a household are apparently not distributed according to need.

Using a model of intrahousehold bargaining, Haddad and Kanbur first try to answer the question: As households become better-off, does intrahousehold increase or decrease? This is the household-level counterpart to a classic question Kuznets (1955) posed at the level of the economy as a whole. They find that under certain conditions intrahousehold inequality first increases and then decreases, in other words, a Kuznets-type "inverse-U" curve.

The debate on intrahousehold inequality is entwined with policy questions about the efficacy of targeting individual disadvantaged members of a household, as opposed to poor households in general. Haddad and Kanbur found that an intrahousehold bargaining view (more than a household welfare maximization perspective) tends to support targeting to disadvantaged members of the household, because of bargaining power effects.

The bargaining framework also gives support for the concern that some observers have expressed about the impact of structural adjustment on intra-household inequality. When cash crops are predominantly under male control and food crops are primarily a female preserve, improving the relative price of cash crops can worsen intrahousehold inequality.

According to Haddad and Kanbur, the policy implications of applying intrahousehold bargaining theory to social policy questions are important enought that this work should continue at an accelerated pace.

This paper — a product of the Research Administrator's Office — is part of a larger effort in PRE to understand the design of poverty alleviation policies. Please contact Jane Sweeney, room S3-026, extension 31021 (20 pages with figures).

374. Two Sources of Bias in Standard Partial Equilibrium Trade Models

Samuel Laird and Alexander J. Yeats

In projecting the trade effects of tariff cuts, standard partial equilibrium models generally fail to account for the price-raising effects of nontariff barriers and to consider the influence of supply constraints. The magnitude of the bias may be several hundred percent or more.

The methodological problems associated with standard partial equilibrium models may impart a significant bias in their projections of the trade effects of tariff cuts.

First, these models fail to account for the price-raising effects of nontariff barriers (NTBs) that shift the supply curve for imports. This causes the percentage price change associated with any cut in import duties to be overstated, which in turn produces an upward bias in projections of new trade resulting from those cuts. (For NTBs that operate on the demand scedule for imports, the bias is reversed.)

Second, this problem of the interaction of tariffs and NTBs, and the failure to consider the influence of supply constraints, can cause major upward biases in simulations of trade diversion due to preferential tariffs.

Using representative estimates of supply elasticities and NTB ad valorem equivalents, Laird and Yeats show that the magnitude of this bias may reach several hundred percent or more.

They suggest procedures for removing biases in models used to simulate the effects of tariffs and nontariff barriers in international trade.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to assist developing and developed countries evaluate the effects of tariffs and nontariff barriers on their own economies and international trade. The paper develops methods that will remove biases in existing models used to simulate the effects of these restrictions. The modifications will improve present capacities to design and evaluate proposals for trade liberalization and reform. Please contact Jean Epps, room S8-037, extension 33710 (19 pages with tables).

375. Regional Disparities, Targeting, and Poverty in India

Gaurav Datt and Martin Ravallion

To have an impact on national poverty, attempts to redistribute resources from richer to poorer states or sectors must be supplemented by interventions to reach the poor within *regions or sectors — to reduce the costs borne by the poor in donor regions and enhance benefits to the poor in recipient regions.*

How much can India reduce poverty nationwide by manipulating the distribution of income between regions or sectors?

What is the overall effect on the poor of targeting resources toward the poorer states of India — or toward the generally poorer rural sector?

The answer to these questions is far from obvious, report Datt and Ravallion. Given real constraints on policy changes, it can be argued that the costs (to donor regions) and the benefits (to recipient regions) of regional policies will tend to be borne widely *within* regions.

Some benefits are likely to leak to the nonpoor in recipient regions, and some costs to the poor in donor regions. And with benefits targeted to the agricultural sector, the costs to the urban poor may be higher than the benefits to the rural poor can justify.

Datt and Ravallion's simulations suggest that the quantitative potential for alleviating national poverty through purely regional redistributive policies is small. Even assuming no political problems, the maximum impact on poverty is no more than could be achieved simply by giving everyone a uniform (untargeted) windfall gain equal to about 1.5 percent of India's mean consumption. And other considerations — including increased migration to areas of higher benefits —

make it unlikely that the maximum impact will be attained in practice.

Greater alleviation of poverty requires supplementary interventions that reach the poor *within* regions, by reducing the costs borne by the poor in donor regions and enhancing benefits to the poor in recipient regions.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to better understand the real world constraints facing policymakers in attempting to alleviate poverty in developing countries, with a view to designing and implementing more effective policies in the future. Please contact Cicely Spooner, room N8-039, extension 30464 (41 pages with figures and tables).

376. The World Economy in the Mid-1990s: Alternative Patterns of Trade and Growth

Colin I. Bradford, Jr.

Powerful economic arguments can be made for more open trade among the OECD, socialist, and developing countries. Non-OECD economies — socialist and newly industrializing countries — are increasingly important to OECD trade and growth prospects.

The rise of newly industrializing countries (NICs) and potential NICs in several regions of the world has given the world economy a new structure which must be considered in anticipating future trends.

In this multipolar world economy, more openness to trade and more expansionary policies in more key countries — including developing and socialist economies — can significantly affect the magnitude and rates of growth of world GDP and trade.

In this report, Bradford analyzes three scenarios of (strategies for) world trade:

- The *base case* scenario — the current (intra-OECD) policy, which is on a trajectory of moderate growth. The model for this scenario produces continuing trade imbalances, especially for the United States and Japan, but also for other non-OECD blocs.
- The *lo-closed* scenario — more closed, less trade intensive, with a lower growth path. In this scenario, world export growth is more sensitive to decreases in openness (as measured by the import-GDP ratio) than to decreases in projected GDP growth rates. Policy conclusion: sustaining the import capacity and openness of the 36 countries in the three OECD and nine NIC blocs is crucial to sustaining world trade growth.
- The *hi-open* (global growth) scenario — more open, higher growth, more global trade patterns. Simultaneous expansion of the 12 major blocs would assure export growth. Favorable export growth prospects are vital to the growth pattern on which this strategy depends, in which imports grow faster than GDP.

Unlike the expansion of surplus economies (Germany, Japan) as a means of correcting the U.S. deficit, the hi-open, global growth strategy moves toward improved trade balances in all blocs as exports and imports increase together.

The hi-open strategy moves toward better balance among industrial countries, adaptation of the rest of the OECD to further integration of the European Community, incorporation of the socialist economies into world trade, and amelioration of the world debt problem.

The hi-open scenario generates US$2.4 trillion more world GDP in 10 years (1985-95) than the lo-closed scenario, and US$1.4 trillion more in exports. It generates US$1.6 trillion more GDP than the base case scenario, and US$870 billion more in exports.

Under the hi-open strategy, if Eastern Europe and the Soviet Union fail to expand and open their economies, export growth rates in 1985-95 will be dampened in eight of the 12 core blocs. This is a powerful argument for opening world trade to the Soviet bloc so that the Soviet bloc will open up to the rest of the world.

Bradford's simulations quantitatively show how important it is for the EC to open up to the rest of the world, to compensate for the inevitable deflection of EC demand (under EC 92) from non-European markets to other EC economies.

The growth prospects of the lower income countries neither affect nor are affected by the 36 motor economies. There is no automatic trickle-down of growth through trade. Nor is there a self-interested economic rationale as there is if the Soviet Union and Eastern Europe open up to world trade (in which case, the dynamic economies benefit directly from increased growth in the socialist countries).

This paper — a product of the Strategic Planning Division, Strategic Planning and Review Department — is part of a larger effort in PRE to identify key development questions and to anticipate future prospects and potential issues. Please contact Carole Evangelista, room S13-137, extension 32645 (35 pages with tables plus 13 pages of appendix).

377. After the Cold War: Security for Development

John Stremlau

How the multilateral financial institutions decide to respond to the forces for reform in Eastern Europe — and to advance peace- building processes in Africa, South Asia, Indo-China, and Central America — could be as important to the advancement of world order as their support for West European reconstruction and development was 40 years ago. With major donor countries focused on Europe, and the passing of Cold War ideological tensions, the Bretton Woods institutions need more than ever to represent Third World interests.

If the Cold War era is ending, the paradigm that has framed national security agendas for over 40 years must change. Threats to the environment, instant global communications, access to changing science and technology, and deepening economic interdependence are rapidly eroding national sovereignty and blurring distinctions between foreign and domestic policy.

How the multilateral financial institutions decide to respond to the forces for economic reform in Eastern Europe — and to advance peace building processes under way or imminent in Africa, South Asia, Indo-China, and Central America — could be as important to the advancement of world order as their support for West European reconstruction and development was 40 years ago.

In conflict-plagued regions of the Third World, multilateral financial institutions will have important new opportunities to support incipient peace processes. Such efforts could significantly

improve economic growth and reduce poverty in seriously affected countries, could advance the trend of improving East-West relations, and could strengthen the multilaterals' authority to bridge security and development issues.

These institutions can help "ripen" peace processes with timely assessments of the economic gains from national reconciliation; help reinforce peace processes and reduce the risk of reversibility; and perhaps act as "broker and balancer" by allocating resources to facilitate the positive-sum bargains needed to stabilize a nation or region.

In Eastern Europe, support by the international financial institutions for market-oriented reforms, economic modernization, trade expansion, human resource development and other ventures will be much more effective if they are designed and executed within a long-range strategic framework that encompasses all of Europe, including the Soviet Union. The international financial institutions can also help manage any problems that could emerge if expanding exports from Eastern Europe are granted preference over products from developing countries or otherwise disrupt their markets.

Finally, multilateral finance and development institutions can ease the transition to a new post-bipolar global security regime beneficial to developing countries. They can:

- Prepare "watching briefs" on regional and civil conflicts to aid long-range planning and prepare for introducing financial and other assistance for peacekeeping and peace-building efforts.
- Promote greater regional cooperation in trade, environmental management, communications, education, and other economically significant links. Today these issues are increasingly being perceived by potential partners as essentially matters of national and regional security. Most successful regional organizations — including the European Economic Community — have come together and stayed together for reasons of collective security.
- Integrate the democratizing nations of Eastern Europe into the world economy, a process that might eventually engage the Soviet Union.
- Design long-range approaches to involve developing countries in international efforts to deal with the degradation of the world's vital atmospheric, marine tropical, water, and biological resources.

This paper — a product of the Strategic Planning Division, Strategic Planning and Review Department — is part of a larger effort in PRE to identify key development questions and to anticipate future prospects and potential issues. Please contact Carole Evangelista, room S13-137, extension 32645 (42 pages).

378. How Does the Debt Crisis Affect Investment and Growth? A Neoclassical Growth Model Applied to Mexico

Patricio Arrau

A large-scale neoclassical growth model can provide interesting quantitative policy implications. Growth-oriented reforms can increase the present value of repayment, and the relative impact on growth from alternative government financing can be evaluated.

Most economists and specialists in international finance believe that the debt crisis hurts macroeconomic performance, particularly discouraging investment and growth-oriented structural reforms.

Identifying the link between the foreign debt overhang and macroeconomic performance is essential for assessing what creditors and debtors have to gain from alternative debt solutions. Having set up a neoclassical growth model to study the impact of the debt crisis on investment and growth, Arrau concludes:

- The best case for growth is given by inflation financing; the worst case, by national debt financing. In between are different combinations of income taxation and capital income taxation. (This result is interesting because inflation has been a primary source of financing early in the crisis — but it is not robust because the model does not include any inflation disincentive to invest.)
- Growth-oriented reforms (in the model, tax reforms in favor of capital formation) can increase the present value of repayment by several percentage points of GDP. If these reforms are negotiated in the context of a debt reduction agreement, the secondary market discount for the remaining debt can be substantially reduced.

Arrau used a neoclassical (life-cycle) model instead of the simpler Ricardian (infinite-horizon) model of growth because Ricardian models have recently failed to be supported by the data when their implications were tested against the life-cycle model. The Ricardian model also imposes a theoretical limit for issues at stake here. The neoclassical model is more flexible because long-run equilibria depend on the cumulative effects of the transition caused by policy choices. Its main limit is its assumption of exogenously supplied labor.

This paper — a product of the Debt and International Finnce Division, International Economics Department — is part of a larger effort in PRE to examine the interrelationship between external debt and economic growth. A subset of that work deals with the theoretical and empirical underpinning of the debt overhang hypothesis. That hypothesis argues that a large external debt discourages investment and adjustment and, ultimately, harms creditors. Please contact Sheilah King-Watson, room S8-025, extension 31047 (46 pages with figures and tables).

379. Some Implications of Policy Games for High Inflation Economies

Miguel A. Kiguel and Nissan Liviatan

Programs based on tight fiscal and monetary policies (the orthodox approach) are slow at reducing inflation in high-inflation countries. Why? The policy-game approach sheds light on the credibility problems that raise the public's inflationary expectations.

Kiguel and Liviatan used the policy-game approach to gain insight into a problem that has puzzled analysts of high inflation economies.

Why are programs based on tight fiscal and monetary policies (the orthodox approach) slow at reducing inflation in high-inflation countries?

They conclude that lack of credibilty generates disinflation costs.

One question relates to the apparent delinking of inflation from the long-term requirements of deficit finance. Distinguishing between regimes of rule and discretion, Kiguel and Liviatan explain

that governments that cannot abide by policy rules and tend to use surprise inflation in a discretionary manner to achieve short-term goals — to erode the real wage, for example, or the real value of domestic debt — raise the rational public's inflationary expectations.

A given level of real seigniorage, in particular, can correspond to a much higher long-term rate of inflation — especially in high-inflation economies with a limited ability to abide by the rules. The results are different in countries with a credible rule about money supply.

If policymakers can convince the public that (even though they intend to rely on money finance) they will not resort to surprise inflation tactics, the long-term level of inflation may be reduced considerably. Then they are advised to limit the deviations from the preannounced target of their nominal anchor, whether a monetary or exchange rate.

Another problem is how should policymakers who are genuinely interested in disinflation react to adverse public expectations? The policymakers are faced with the dilemma of sticking to their announced policy and paying immediate costs in terms of unemployment and capital flight, or compromising their initial targets at the cost of renewed inflationary expectations.

If the source of a credibility problem is the inability of "weak" policymakers to honor their commitment, strong policymakers may need to compromise to some extent.

What if the source of a credibility problem lies in different attitudes of policymakers toward the relative importance of price stability versus distortion in the real sector (overvaluation, unemployment) — and in the incentives for high-inflation policymakers to mimic low-inflation policymakers? Then a case can be made for overadjusting in the initial stages of adjustment — for example, creating a fiscal surplus after a long history of deficits — to improve the government's credibility.

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). Please contact Raquel Luz, room N11-057, extension 39059 (32 pages).

380. Techniques for Railway Restructuring

Lee W. Huff and Louis S. Thompson

This document addresses how, not whether, to restructure a railway.

This report was sponsored by the Union of African Railways, as part of a Sub-Saharan Africa Transport Project task aimed at defining what is involved in restructuring railways so that they behave more like market-driven enterprises.

Problems with railway management are generally related to the policy and institutional framework within which the railway operates — the behavior of the "enterprise" itself — rather than to access to technology or capital.

The question addressed in this document is not *whether* the railway should be restructured, but *how*.

The report recommends four types of action to be employed in the process of institutional reform:

- A *strategic plan*, which defines the environment in which the railway will function and focuses on the crucial policy issues that will guide or influence the railway's planning and actions. The objective: to generate a thorough public discussion of the role the railway should play and the costs and benefits of alternative choices. Emphasis is initially on policy, and as the process proceeds on broad understanding and commitment to the process of change.
- A *contract plan*, which defines the roles and responsibilities of the railway and its owner (the government). The contract plan flows from the strategic plan, and should not be developed in isolation from related policy and funding objectives of the government and railway.
- A *management plan*, an internal plan that clarifies the objectives of the senior railway executives and their roles and responsibilities in relation to the executive director. The targets of the three plans should not be confused. Operating targets, for example, should not appear in the contract plan, inviting political interference in management operations.
- An *enabling actions plan*, which lists most of the initiatives that must be taken in conjunction with implementation of the first three plans. The focus should be to ensure that the roles and responsibilities defined will actually be realized in law or enforceable agreement.

This paper — a product of the Transport Division, Infrastructure and Urban Development Department — is part of a larger effort in PRE to understand and facilitate the process of institutional reform and enterprise development. Please contact Sabine Shive, room S10-046, extension 33761 (29 pages).

381. Trade in Banking Services: Issues for Multilateral Negotiations

Alan Gelb and Silvia Sagari

The response of developing countries to the U.S. proposal to liberalize trade in financial services ranges from cautious to hostile. Opening borders to foreign competition — like the wide-ranging domestic reforms needed in most developing countries — must proceed, but at a moderate pace.

When the General Agreement on Tariffs and Trade was instituted in 1948, its mandate excluded such industries as banking, insurance, and telecommunications.

These service sectors were highly regulated and protected in most countries, partly because of their sensitivity to national security and cultural identity. Under U.S. pressure, the Uruguay Round talks have included financial services, particularly banking.

The response of developing countries to the U.S. proposal to liberalize trade in financial services ranges from cautious to hostile. Partly this reflects concern about the perceived comparative advantage of industrial countries and the desire of strong vested interests (including governments) to continue to use the financial system as an instrument of public policy.

It also reflects the weak situation of the banking industry in many developing countries. In some there is no real banking industry; in many the banking sector is technically insolvent and needs costly restructuring and reform.

Opening borders to foreign competition is essential to liberalization. But this process must proceed at the pace appropriate to the wide-ranging domes-

tic reforms essential in most developing countries.

Gelb and Sagari discuss many of the issues involved.

This paper — a product of the Financial Systems and Policy Division, Country Economics Department — is part of a larger effort in PRE to analyze the process of liberalizing financial and other markets, the consequences of such liberalization, and complementary measures needed for its success. Please contact Wilai Pitayatonakarn, room N9-017, extension 37666 (33 pages).

382. The Indonesia Vegetable Oils Sector: Modeling the Impact of Policy Changes

Donald F. Larson

Liberalizing vegetable oil production in Indonesia would stimulate production, which is already expanding, but without new milling capacity, palm oil production gains are useless. And increasing export taxes would reduce export revenues.

In two decades, Indonesia has become the world's second largest producer of palm oil and coconut oil. But Indonesia remains a price-taking producer of perennial (tree) crops in a market dominated by annual crops, particularly soybeans.

Indonesia has expanded production despite a Byzantine collection of price and quantity restrictions that affect both consumers and producers. But the Government of Indonesia appears ready to liberalize trade and increase private participation in the sector — recognizing both the limits of government financing and the importance of vegetable oils to the development of the Outer Islands.

Larson simulated the effects of trade liberalization on the sector and the effects of an export tax on tax and export revenues. His policy simulations show that:

Removing cumbersome government regulations would stimulate production but would not guarantee consumer benefits.

Whatever scenario is pursued, past investments in tree crops guarantee rapid expansion of production. But increased production does not give producers marketing power as they are unable to adjust supplies as quickly as producers of annual crops.

The rapid expansion of vegetable oil production may precipitate a domestic crisis in the palm oil milling industry, as milling capacity is stretched. Should new investments in milling fail to materialize, some production gains from existing trees will be squandered.

Should the export tax on vegetable oils increase, export revenues will drop. And some of the gains from tax revenues will be offset by reduced revenues from state-owned estates.

This paper — a product of the International Commodity Markets Division, International Economics Department — is part of a larger effort in PRE to develop a thorough understanding of primary commodity sectors in the developing countries. This information is useful both for commodity outlook work as well as for policy analysis. Please contact Dawn Gustafson, room S7-044, extension 33714 (61 pages with tables).

383. On the Relevance of World Agricultural Prices

Yair Mundlak and Donald F. Larson

Is it appropriate for market analysts to use international agricultural prices as a proxy for domestic prices when domestic prices are unavailable? A firm yes.

In a free market, domestic prices on agricultural products could be expected to vary with world prices. But intervention is so common with agricultural products that prices vary between countries and gaps exist between world and domestic prices.

The International Commodity Markets Division is often forced to use international prices as a proxy for domestic prices. But it is often claimed that world prices are irrelevant to agricultural development in countries that intervene in agricultural pricing.

Mundlak and Larson examined the appropriateness of this substitution in measuring, say, the agricultural supply response to price changes — particularly in the long run.

They conclude that on the whole world prices are indeed relevant. The results — for 18 countries and 17 commodities — are surprisingly robust, and invariant to both data sources and time/commodity pooling.

This paper — a product of the International Commodity Markets Division, International Economics Department — is part of a larger effort in PRE to model the global markets for primary commodities and to use these models for forecasting purposes as well as for policy analysis. Please contact Dawn Gustafson, room S7-044, extension 33714 (30 pages with tables).

384. The Rational Expectations Hypothesis in Models of Primary Commodity Prices

Christopher L. Gilbert

The standard linear model fails to account for primary commodity price movements in any significant area, so it is important to do more empirical work to learn to which commodities this nonlinear model applies.

Muth's Rational Expectations Hypothesis (REH) revolutionized economic theory and modeling on price formation in a simple agricultural market. Gilbert studied the results of the few econometric models of primary commodity markets that have incorporated the REH.

In the medium to long term, primary commodity prices are determined by the intersection of the commodity's consumption (demand) and production (supply) curves, but in the short term stockholding tends to even out price movements.

In a commodity price model, it is useful to distinguish between application of the REH to the "physical" production and consumption relationships and its application to how intertemporal stockholding affects short-term price determination. In practice, most econometric work has concentrated on the implications of the REH for stock and price relationships.

The standard speculative stock demand model (the one Muth originally used) relates stockholding to expected capital gains. One can estimate this relationship directly or can obtain the implied solved price equation which related the current price to its lagged value and to a specific function of current and future values of the exogenous variables and disturbances in the production and

consumption equations. Whatever the precise specification adopted, the model performs poorly.

Why? Actual stock data for primary commodities apparently do not relate mainly (or even substantially) to speculative stockholdings. If stocks are specified as the dependent variable, one needs to model transactions and precautionary stockholdings as well as speculative stockholdings.

But the quality and character of the stock data cannot explain why, in estimating solved price models, investigators have failed to find the predicted dependence of the current price on expected future supply and demand movements.

Perhaps the simple equations adopted by the commodity modeler cannot reflect the markets looking ahead in the manner implied by the REH, but even so one should be able to find the negative reaction of primary commodity prices to rises in interest rates implied by the REH. The almost universal failure of modelers to find this effect suggests that the model is incorrect.

The standard Muth stockholding model derives its simplicity from ignoring the non-negativity constraint on stocks. This results in linear solved stock and price equations, allows explicit solution of price, and permits use of standard econometric methods — but can produce distortions.

Recent work based on Gustafson's contribution investigates commodity stock behavior under the REH with the non-negativity constraint imposed on stocks. This model implies weaker forward-looking behavior and price responses to interest rate changes than those implied by the linear model. The possibility of stockout clearly implies that the price will respond in a nonlinear manner to supply and demand disturbances. But the REH implies that this nonlinearity will be fairly smooth since even if enough stocks are available currently, the fact that one could face stockout eventually influences current behavior.

This nonlinear REH model seems to provide a good explanation for sugar prices, for which there is clear evidence of nonlinearity in price responses. But it is inappropriate for the aluminum industry, for which there is no evidence of nonlinearity and in which speculative stockholding is not important. More work in this area should be a high priority.

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. Please contact Aban Daruwala, room S7-040, extension 33713 (64 pages).

385. The Principles of Targeting

Timothy Besley and Ravi Kanbur

Administrative and data-collection costs, individual responses to targeted interventions, and considerations of political economy make it difficult to establish workable procedures for fine targeting of spending to alleviate poverty. Self-targeting and targeting by indicators offer more advantages than other approaches.

In response to calls for finer targeting of spending to alleviate poverty in developing countries, Besley and Kanbur discuss the principles of targeting.

The ideal solution — the benchmark for discussion — is that all transfers go to the poor. The ideal solution is unrealizable because of three factors:

- The costs of administration and data collection.
- Individual responses and incentive effects.
- Considerations of political economy.

The best strategy will probably lie somewhere between the two extremes — the ideal solution and universal intervention — mediated by these three considerations.

Two types of targeting, although short of the ideal, may be useful in certain contexts.

With *statistical targeting* (using indicators), programs target key indicators such as a region, occupation, or the crops grown. (It might be easier, for example, to target everyone in a low-income neighborhood, particularly when it is difficult to identify individual incomes.)

Self-targeting uses differences in needs, tastes, or incomes as a device for achieving self-selection by only the poor into poverty alleviation programs.

Real progress in understanding how targeting works best can be made only through country-specific research that quantifies the costs and benefits of targeting using data that has increasingly become available for many developing countries — and research that is sensitive to the political realities of reform.

This paper — a product of the Research Administrator's Office — is part of a larger effort in PRE to understand the design of poverty alleviation policies. Please contact Jane Sweeney, room S3-026, extension 31021 (35 pages).

386. Argentina's Labor Markets in an Era of Adjustment

Luis A. Riveros and Carlos E. Sanchez

Changing Argentina's structure of production requires fundamental reform of the labor market with regard to wage policies and the extent of government intervention. It will also require adequate financing during the transition period to compensate the potential losers from structural adjustment who might otherwise prevent its successful implementation.

The current economic crisis in Argentina is only partly the result of inappropriate domestic policies to cope with recent external shocks. Years of inappropriate policies have damaged Argentina's economy. Even if no external shocks had occurred, the country would still have to change the structure of production.

Argentina has had trouble sustaining a program of structural adjustment. Its experiences provide policymakers with some lessons in designing a sustainable program to achieve price stability and change the incentive system:

- Macroeconomic and trade policies must be consistent. Trade policy in particular must mesh with fiscal reforms, because cuts in public spending exert downward pressure on the real exchange rate.
- Labor relations and labor market institutions must be changed. If resources are to shift among industries and regions and wage flexibility is going to allow for an adequate labor market response, certain institutional changes are necessary — including the decentralization of wage bargaining and the elimination of tradi-

tional wage policies and general government intervention.

• If resources are to be shifted among regions and industries, rigidities and restrictions on labor mobility must be eliminated. More labor mobility means less pervasive government intervention in the form of restrictive regulations and spending patterns. It also means that the government must stop the use of deliberate policies of employment absorption.

• Prospective losers in adjustment programs can stop their implementation, so it is important that adjustment programs provide them with benefits. Public spending must be profoundly changed to reduce social costs during the transition period. This will require external financing and debt alleviation.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE aimed at identifying typical labor market policies in LDCs, specifically those affecting wage flexibility and the intersectoral labor mobility. Please contact Raquel Luz, room N11-061, extension 39059 (48 pages with figures and tables).

387. Productivity and Externalities: Models of Export-Led Growth

Jaime de Melo and Sherman Robinson

A model for export-led growth that captures structural change, growth in productivity, and growth in the share of trade.

In developing countries, industrialization for successful export-led growth has been associated with rapid structural change and growth in productivity.

Standard neoclassical growth models have difficulty explaining this change in performance. De Melo and Robinson developed a simple analytical model incorporating export externalities that capture the large increases in the share of trade and total factor productivity that are associated with export-led growth.

They developed a second model that breaks growth into its various components, which include the effects of:

• Factor accumulation.

• Moving factors from areas of low productivity to areas of high productivity (the factor reallocation effect).

• Exporting heavy and light manufactures (the export externality effect).

• Importing capital goods (heavy manufactures) — the import externality effect.

They implement the second model with data from an archetypal semi-industrial country. The model accounts for the higher total factor productivity growth observed in countries pursuing export-led growth strategies. It also captures — better than do simpler neoclassical models without disequilibrium features or externalities — the pattern of structural change that such countries experience.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to study the effects of trade regimes on productive efficiency. It was funded from research project "Industrial Competition, Productive Efficiency, and Their Relation to Trade Regime" (RPO 674-46). Please contact Maria Ameal, room N10-031, extension 37947 (42 pages with tables).

388. The Distortionary Effects of Tariff Exemptions in Argentina

Faezeh Foroutan

Argentina suffers from the indiscriminate use of tariff exemptions — exemptions granted to an industry no matter what its export performance, or exemptions granted only for specific inputs (often capital goods).

Like many other countries, Argentina offers exporters tariff exemptions, or duty drawbacks, as export incentives to reduce the anti-export bias that otherwise exists in an import-protecting economy.

Like other countries, it also grants tariff exemptions for the entire output of particular industries or the regions in which those industries are located. Foroutan develops a simple model to show that the indiscriminate use of tariff exemptions has several undesirable effects:

• Like other fiscal incentives, it deprives the government of revenues.

• The more widespread they are, the less effective tariff exemptions are in promoting exports. When they are granted only to exports, they function as an export subsidy and a reduced tariff on imported input — so imports expand as a share of total output, domestic sales of output contract, and the use of imported inputs increases. But when they are granted to an industry independent of its export performance, exemptions no longer serve as an export subsidy.

• The more capital-intensive an industry, the more exemptions increase its effective protection — because it is capital goods that are exempted from duty. Industrialization in Argentina is based on import substitution, a process that favors capital-intensive industries. Tariff exemptions for capital goods worsen the negative effect of distortionary trade policies on employment.

• Exemptions increase the demand for imports more than an export subsidy does, because output in the competing domestic input industry contracts. This might be desirable, if reducing production costs made domestic firms more competitive.

But in Argentina exemptions are granted primarily for capital goods, the level of protection is nearly prohibitive for capital goods that are domestically produced, and capital goods for which there is no satisfactory domestic output are exempted from duty. This type of policy drives a wedge between the relative domestic and international prices of the two types of capital goods and encourages more intensive use of the non-competing type of capital goods in all industries.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to study the design of tariff reform. Please contact Sheila Fallon, room N10-041, extension 38009 (22 pages with tables).

389. Monetary Cooperation in the CFA Zone

Patrick Honohan

Although it has restrained inflation in member countries, the franc zone does not appear to have worked well to channel financial resources to efficient uses.

In considering the merits of joining a monetary union, small countries naturally value the credible commitment to

exchange rate and price stability that membership represents — and that would be hard to sustain by unilaterally pegging one's own currency.

Membership offers other potential advantages. Within a monetary union, capital might flow more freely to where it is most needed. If the distribution of union benefits is reasonable, this could benefit all members — even those who because of low capital productivity became net lenders within the union.

Moreover, the operation of monetary policy and the prudential supervision of the banking system might be more effective if the resources of several small countries were pooled in a strong and independent Central Bank.

Have these advantages been realized in the CFA zone?

Unfortunately, the experience has not been encouraging. Despite the fixed exchange rate and an elaborate set of rules for avoiding overexpansion of credit, the CFA zone has almost foundered in widespread bank insolvency.

The zone's institutional set-up seems equitable, but in practice the burden of paying for losses is likely to fall disproportionately on the poorer countries — whereas most of the nonperforming credits have been made in some of the zone's more prosperous countries.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in PRE to explore regional integration in financial systems. Please contact Wilai Pitayatonakarn, room N9-003, extension 37666 (18 pages with figures and tables).

390. Price and Monetary Convergence in Currency Unions: The Franc and Rand Zones

Patrick Honohan

Inflation and interest rates in Africa's currency unions tend to follow the patterns set in the dominant countries, France and South Africa.

Theory suggests that a currency union will impose significant macroeconomic disciplines on its members. Honohan examines the two main surviving currency zones — the franc and rand zones in Africa — to learn whether and to what extent certain generally accepted theory is confirmed by the data.

As with most fixed exchange rate systems, the African currency unions have a dominant or "core" member — France in the franc zone and the Republic of South Africa in the rand zone. Honohan focuses on the small members at the periphery, for whom inflation and interest rates are assumed to be imported from the core.

On the whole, the facts support generally accepted theory:

Price levels converge, at least for tradable goods. The pattern of consumer price inflation is determined largely by core country inflation in the long run, although convergence is slow.

The limited evidence available suggests that uncontrolled interest rates also converge to core country levels.

And in most cases expansion of domestic credit in one small country spills over into its balance of payments rather than generating local inflation.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in PRE to explore regional integration in financial systems. Please contact Wilai Pitayatonakarn, room N9-003, extension 37666 (18 pages with figures and tables).

391. Wealth Effects of Voluntary Debt Reduction in Latin America

Daniel Oks

The impact of voluntary debt reduction on private wealth depends on how agents subjectively value external liabilities and on how much they perceive public debt as future discounted taxes.

Oks has formulated a multisectoral accounting framework to assess the potential effects on perceived private wealth of alternative schemes for voluntary debt reduction.

Swaps of private equity for public foreign debt increase private wealth when private agents behave ultrarationally, that is, when they regard public foreign debt as discounted future taxes, and when their subjective valuation of foreign debt exceeds its redemption price.

With direct buybacks and collateralized debt conversions, private wealth increases when agents behave ultrarationally and their subjective valuation of debt is higher than secondary market prices.

Using this framework to examine recent experience in Brazil, Chile, and Mexico, he concludes that the surge in consumption-GNP ratios — along with record levels of voluntary debt reduction in Brazil, Chile, and Mexico in 1988 — is consistent with the hypotheses that private agents have behaved ultrarationally and have valued foreign sector liabilities at more than redemption/secondary market prices.

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 in highly indebted developing countries. Please contact Sheilah King-Watson, room S8-025, extension 31047 (39 pages with tables).

392. Institutional Development in World Bank Projects: A Cross-Sectoral Review

Samuel Paul

Project sustainability and institutional development are positively correlated. The widening scope of institutional development work in Bank projects, however, has added to the complexity of institutional analysis and design. What are the lessons to be learned from the Bank's recent work on institutional development? How can the Bank's capability in this field be strengthened?

As the scope of Bank work in institutional development (ID) widens, the design of ID in Bank projects needs to pay increased attention to several emerging problems and inconsistencies:

- Without country-specific sector ID strategies, there is no map or long-term perspective to guide project design.
- The uneven quality of institutional analysis and the limited attention to ID issues in economic and sector work can weaken the design process.
- The focus of ID work on project implementation tends to limit the concern for project sustainability.
- The more complex, sectorwide ID components call for more rather than less

supervision and a greater willingness to make mid-course corrections.

The task, Paul concludes, is not to broaden ID work but to deepen it, by shifting the focus more toward sustainability, allocating enough resources to support more relevant upstream diagnostic work, and upgrading the quality of the staff who work on ID issues.

The factors that contribute to successful ID are well known; there is, however, a wide gap between knowledge and practice.

There is a positive correlation between project sustainability and institutional development. The increasing difficulties in achieving ID objectives that Bank projects face, however, is a cause for concern. This phenomenon cannot be attributed solely to the macroeconomic constraints at work in borrower countries. There is also a clear mismatch between the complexity of ID issues being addressed and the operational staff skills to deal with them. Paul recommends:

- Encouraging operational task managers to supplement skills at their command by mobilizing experts within the Bank to help with analysis and design.
- Increasing Bank expertise in this area.
- Using outside experts as needed, which will help strengthen the skills of operational staff.
- Exposing Bank staff to a range of analytical frameworks to improve institutional analysis.
- Making joint (Bank and borrower) institutional diagnosis and design a norm, so borrowers have a greater sense of ownership — a good basis for sustainability.

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 understand and evaluate the Bank's work on institutional development. This paper was presented at the conference on "Institutional Development and the World Bank" held in December 1989. Please contact Ernestina Madrona, room N9-061, extension 37489 (50 pages with figures and tables).

393. Debt-for-Nature Swaps

Michael Occhiolini

If the spending priorities of the debtor country and donor are the same, these swaps can help debtor countries. But sometimes they do not make fiscal sense. And the future of these swaps may be limited by the Brady Plan's current emphasis on debt reduction.

Of the three participants in debt-for-nature swaps, international environmental groups benefit the most. These swaps leverage the original donation amount by the difference between the secondary market value and the redemption value of the debt.

As the difference between the redemption and secondary market value declines over time, the environmental group benefits less.

Without further changes in the tax and regulatory environment, there is little reason — except good publicity — for commercial banks to donate their debt to environmental groups. They can realize more by selling their debt on the secondary market.

The debtor country subsidizes the swap by the difference between the redemption value and secondary market of the debt. There is controversy about whether the debtor country benefits from buying back its debt at the secondary market price — let alone at the higher redemption rate usually offered in debt-for-nature swaps.

From a fiscal standpoint, the debt-for-nature swap, unlike a straight donation, can worsen the budget situation if spending on the domestic environmental bond exceeds the debt-service payments on the external debt that is exchanged in the swap.

When resources are limited, spending on debt-for-nature swaps reduces the resources available to other (even higher priority) projects.

The future of these and similar swaps my be limited by the Brady Plan's current emphasis on debt reduction. A debtor country would clearly prefer to have its debt partially forgiven than to swap it for a domestic liability created through a debt-for-nature swap.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to analyze alternative forms of debt and debt service reduction operations available to developing countries and to assess the potential costs and benefits of these operations. Other analysis along these lines includes studies of debt-equity swaps and of market-based voluntary debt reduction exercises. Please contact Sheilah King-Watson, room S8-025, extension 31047 (34 pages).

394. Threshold Effects in International Lending

Mark M. Spiegel

This dynamic model for international lending predicts that when production in the debtor country exhibits increasing returns, new money is a rational response by creditors to a debt crisis.

Spiegel's dynamic model of international borrowing subject to a credit constraint was developed for an economy with increasing returns to physical capital.

Increases in the capital stock within the nonconvex range increase debtor borrowing opportunities. Conversely, a temporary liquidity shock may permanently lower the economy's growth path.

Introducing aggregate nonconvexities also has different implications for policy on debt overhangs.

In particular, the model allows for rational relending by creditors. It also predicts that new money (or interest capitalization) is in the interest of creditors and will be part of a debt restructuring strategy — as it was recently for Mexico and the Philippines.

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 relationship between external debt and economic growth in developing countries. This work includes theoretical and empirical work on the possibility of a debt overhang, the relationship between external debt and internal debt, and the sectoral and factor of production burden of adjustment to a debt crisis. Please contact Sheilah King-Watson, room S8-025, extension 31047 (39 pages).

395. How Gambians Save — and What Their Strategies Imply for International Aid

Parker Shipton

An interesting suggestion emerges from this analysis of Gambian saving strategies: that aid agencies try subsidizing savings, not credit.

International aid for Gambian farmers is out of balance, concludes Parker Shipton.

Interventions in this small, impoverished, West African country have been based mainly on credit (and thus on debt). Public and private lending institutions have failed dramatically and debts are mounting, but lenders continue extending loans into the countryside.

Before suggesting better ways to help Gambians alleviate poverty, Shipton answers the question: How do Gambians save?

Saving takes many forms other than just money — including livestock, jewelry, store crops, and resaleable household goods. Some forms are gender-specific, some secret. Some farmers keep cash in sealed containers; some deposit it with trusted local "money-keepers;" some ask for deferred wage or share-contract payments.

Gambians do not prefer liquidity. They often convert wealth into forms that shelter it from the daily demands of spouses, kin, and neighbors — and remove it from their own temptation.

Some of the most important ways of saving money (as in rotating credit and saving associations) and other goods (as in grain storage) combine principles of individual property and group control — principles that could be emulated in institutional finance, and that underlie some well-known innovative programs in Africa, southern Asia, and Latin America.

Gambian farmers choosing savings options weigh trustworthiness and convenience more heavily than real or nominal interest rates or inflationary losses. Some of their favorite ways of saving are expensive.

There is room for new options. One of these is for financial intermediaries to subsidize not credit — the standard approach — but savings.

Gambians and others like them need a balance between credit and saving, liquidity and illiquidity, individualism and group responsibility.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to assess the factors affecting the success (or causing failure) of credit programs addressed to smaller farmers. Please contact Cicely Spooner, room N8-039, extension 30464 (60 pages with tables).

396. Strategic Trade Policy: How New? How Sensible?

W. Max Corden

Crucial assumptions underlying this subset of theories from the "new international economics" turn out to be unrealistic.

The attention-getting new theories of "strategic trade policy" have been described as part of a "new international economics."

Corden shows how the new ideas are related to the established theory of trade policy and on what kinds of assumptions the principal conclusions hinge.

He sets out the assumptions and logical steps — some from static game theory — in some detail, with the aid of diagrams. Crucial assumptions turn out to be unrealistic.

These theories, Corden writes, were developed in the United States, and assume competition between firms belonging to large economies. Corden would hesitate to grant that the new theories have relevance in developed countries — much less developing countries.

But the discussion is of interest to policy-makers in developing countries because the new theories may be used to support protectionist ideas in developed countries. This could harm the world trading system, including 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 improve the understanding of the role of trade policy in economic development. Please contact Max Corden, room N11-023, extension 39175 (32 pages with figures).

397. Antidumping Regulations or Procartel Law? The EC Chemical Cases

Patrick A. Messerlin

Antidumping regulations allow domestic firms to participate in cartels to capture domestic markets.

The paper considers the intricate relations between antidumping actions, cartelization, and anticartel actions.

In 1982 and 1983, antidumping actions for two products — polyethylene and polyvinyl chloride — were terminated by measures that doubled the protection granted to the European Community's chemical industry. Six years later, anticartel investigations revealed two active cartels in these products in 1983-85.

Messerlin argues several points in this paper:

- Antidumping actions made it possible for these cartels to exist.
- These cartels have imposed huge extra costs on EC users — roughly DM 600 million, for markets with annual sales of DM 6 billion.
- Gains the EC firms got from the antidumping protection were *ten times* larger than the anticartel fines they had to pay. So cartels are likely to continue lodging antidumping actions, even at the cost of antitrust fines.

Cartels can capture existing antidumping procedures so easily that they make disciplines on the antidumping actions a mockery. One-fourth of the antidumping cases initiated by the European Community involve the same products and firms as one-fourth of the EC anticartel cases.

The relief from foreign competition that antidumping laws are supposed to provide is likely to entrench domestic cartels, slow the adjustment of the cartel's members, and generate a powerful demand for more protection in the future.

Messerlin concludes that the EC antidumping regulations should be fully subordinated to the anticartel laws embodied in Articles 85 and 86 of the Treaty of Rome.

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 impact of protectionist instruments. Please contact Salome Torrijos, room S8-033, extension 33709 (51 pages with figures and tables).

398. Agricultural Extension for Women Farmers in Africa

Katrine A. Saito and C. Jean Weidemann

Operational guidelines on how to provide cost-effective agricultural extension services to women farmers in Sub-Saharan Africa.

Women are responsible for at least 70 percent of food staple production in Africa. They are also important in food processing and marketing, cash cropping, and animal husbandry. They are both laborers and decisionmakers — and as more men migrate from the rural areas for work, an increasingly large number of women are managing farms on a day-to-day basis.

Women farmers operate under greater constraints than men, constraints of which there is too little awareness. Women have less access to information, technology, land, inputs, markets, and credit. As primary caretakers of children, they have less time and mobility — and in Africa they are often illiterate. They need effective agricultural extension services, but these services are still geared toward male farmers, both in content and delivery method.

Extension systems should be modified — with women farmers helping design changes — to better reach women farmers. The extension message should be more tailored to the needs of women farmers. To this end, the information and technology needs of women farmers should be identified more effectively, and the links with agricultural research institutes strengthened so that they address women's activities and constraints. Tools and machines appropriate for women farmers should also be designed and made more easily available.

To ensure more effective delivery of the extension message to women, there should be a concerted effort to increase the number of female extension agents. Until more female extension agents are trained, female home economists and "animatrices" should be retrained and redeployed, and female agents presently in the extension system should be used as initial contacts with women farmers to familiarize them with the extension system. It is also very important that male extension agents be trained to work more effectively with women farmers.

The extension system should identify ways to extend services to women to overcome constraints on their time and mobility and their limited education. Suggested approaches include mobile training courses and wider use of such mass media as radio and video cassettes. More generally, there should be a substantial increase in the number of female contact farmers to better reflect their significant role in the sector. The use of women's contact groups is a particularly cost-effective way of providing extension. Monitoring and evaluation should include gender-disagreggated indicators to better assess the impact of extension on both men and women farmers.

This paper — a product of the Women in Development Division, Population and Human Resources Department — is part of a larger effort in PRE to develop sector-specific guidelines on cost-effective interventions to enhance the productivity and well-being of women. These guidelines will reflect the best available operational experience. Please contact Mila Villar, room S9-133, extension 33752 (54 pages).

399. Macroeconomic Adjustment, Stabilization, and Growth in Reforming Socialist Economies: Analytical and Policy Issues

Andrés Solimano

This paper develops simple models, reviews empirical evidence, and discusses policy issues relevant for socialist economies undergoing a process of economic reform.

Current attempts at reform in Eastern European countries raise important issues of macroeconomic management in the transition from central planning to a market, or mixed, economy.

Solimano develops simple models, reviews empirical evidence, and discusses policy issues associated with traditional socialist economies and those undergoing reform.

Those issues involve inflation, growth, money overhang, disequilibrium in goods and labor markets, and interactions between stabilization and 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 macroeconomic adjustment in reforming socialist economies. Please contact Emily Khine, room N11-062, extension 39361 (41 pages with figures and tables).

400. Macroeconomic Constraints for Medium-Term Growth and Distribution: A Model for Chile

Andrés Solimano

A formal model that identifies the major macroeconomic constraints to maintain sustainable growth is specified and parameterized for the Chilean economy. The model is also used to explore the macro effects of policies addressing poverty and income distribution issues.

Solimano uses this model to examine policies geared to reducing poverty and improving income distribution patterns in terms of their macroeconomic impact on the Chilean economy. He concludes that in a capacity-constrained environment:

- An unbalanced increase in government spending (in the social sectors) of 3 percent of potential GDP will slow down the rate of GDP growth by 1 percent.
- Reducing interest payments abroad by 3 percent of GDP would accelerate the rate of GDP growth by 1.7 percent, reduce the real exchange rate by 8.1 percent, and increase real wages 6.6 percent.
- A cut in the mark-up rate of 4 percent would increase both external competitiveness and real wages, allowing the rate of capacity utilization to increase 1.4 percent. Inflation would be reduced 4 percent on impact.
- The balance of payments and fiscal budget can be considered binding if a turnaround in copper prices takes place, as many observers predict.

• The level of productive capacity seems to be a main macroeconomic constraint for expansionary demand policies, at least in the short to medium run. An increase in savings and investment is crucial to sustained growth.

• Inflation is currently moderately low in Chile, but as the economy hovers around full capacity utilization and growth remains high, inflationary pressures may be mounting.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to develop applied macroeconomic models to support the design of adjustment programs. Please contact Emily Khine, room N11-062, extension 39361 (43 pages with figures and tables).