The strategy adopted in 1982 to deal with the world debt crisis has averted financial collapse at the cost of a sharp slowdown in growth and investment in the heavily indebted countries. The debtors' trade accounts have improved almost entirely through restriction of imports and barely at all through growth of exports. After three years, this austerity strategy has to change. The critical question is how the affected countries can restore growth while continuing to meet their debt servicing burdens.

That is the central question confronting the World Bank as it contemplates its new role as the driver of growth in the developing countries. It is best to start by distinguishing the return to capacity production, during which growth can be fast, from the determinants of longer-run capacity growth. There are no magic formulas for ensuring long-term per capita growth at Japan's rate in the 1960s of 10 percent or more or Brazil's rate in the 1970s of more than 5.5 percent. The correct perspective on growth includes a proper respect for compound interest. A growth rate of 3 percent per capita is 50 percent higher than a growth rate of 2 percent per capita. Small increases in growth rates make a big cumulative difference to the level of gross national product (GNP). With that said, there is much that can be done to foster long-term growth.

This article is based on a paper prepared for the World Bank's Conference on Macroeconomic Adjustment and Growth, Fredericksburg, Virginia, June 19–21, 1985. The author is grateful to Rudiger Dornbusch and to participants in the conference for their comments.
Table 1 presents data on the economic performance of the indebted developing countries for 1980-84. The countries are divided into two groups, one designated NP consisting of countries that did not suffer any debt servicing problems, the other designated P consisting of countries that did suffer debt servicing problems during this period. Each group accounts for about 43 percent of the total GNP of the developing countries.1

Three facts stand out. First, the success of the problem countries in reducing their current account deficits was achieved mostly through a reduction in imports, accompanied by a severe slowdown in growth caused by the world recession and tight domestic fiscal and monetary policy.2 Second, the growth slowdown was accompanied by a reduction in the share of investment in GNP. Third, the inflation rate and

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<tr>
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<td>72.0</td>
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Note: NP countries did not have problems servicing their debt; P countries did have problems.

a. Based on consumer price indexes.

Source: International Monetary Fund, World Economic Outlook (Washington, D.C., 1985), various appendix tables.
monetary growth rose rather than fell in the problem countries during the stabilization period.\textsuperscript{3}

Even in 1984 the problem economies were growing at a rate that allowed for barely any increase in per capita GNP. Debt service payments remained high, with the ratio of debt service to exports still well above the 1980 level. The question of how to return to growth rates of GNP closer to the 5.5 percent of the 1967–76 period is especially pressing for these countries. It is also an urgent concern of other countries that were not primarily market borrowers and did not make the same current account adjustments, but that nevertheless must likewise contemplate no increases in capital flows in the years ahead, coupled with an end to the extraordinary 1983–84 growth of the U.S. economy and the slowdown in world trade in 1985.

The World Bank and the International Monetary Fund (IMF) call for structural adjustment to help restore growth.\textsuperscript{4} The term is used in two senses, macro and micro. First, at the macro level adjustments to the structure of aggregate demand and supply have to be made in the heavily indebted countries to restore growth while generating current account positions consistent with reduced external resource flows. A heavily indebted country may have an external debt of 50 percent of its GNP, with an implied real interest burden of about 3 percent of GNP, half as large as the impact of the first oil shock.\textsuperscript{5} If foreign capital flows are sufficient just to maintain the real value of the external debt, the country will have to maintain a trade surplus of 3 percent of GNP, with the debt-GNP ratio falling over time as a result of real growth.\textsuperscript{6} The restoration of growth will require an increase in the share of investment in GNP, and other supply side measures to increase the efficiency with which existing capacity is used.

Policies to bring about structural adjustment in this macro sense are readily described. The first priority is to move resources into the net export sector, meaning primarily a sustained effective real devaluation. Given the need in most problem countries for extensive use of imported inputs, the emphasis will likely be on export expansion.

If the economy is at full employment, then either consumption or government spending has to be cut to make room for investment, for growth, and for net exports. Tight fiscal policy, in the form of reduced government budget deficits, is needed. The adverse distributional effects that come from such policies have to be weighted into the decision on how to make room for exports. Lower borrowing costs, and perhaps investment incentives, will contribute to the growth of capacity. Supply side fiscal policy may increase not only investment, but also labor supply and the propensity to save.

The volume of capital flows affects the extent of adjustment that has to be made and the prospects for growth. But going further into debt is not a useful strategy for many of the heavily indebted coun-

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tries, whose primary need is rather to get out from under their current heavy debt and real interest burdens. Reductions in real interest rates that have taken place in 1985, and that would also follow further U.S. fiscal restraint, would do more to improve growth prospects in the debtor countries than would increased bank lending. The goal for the heavily indebted countries must be to reduce the burden of real transfers by reducing indebtedness over time. Developments of equity markets and other forms of nondebt capital flows will help in this direction, but the quantities involved cannot be expected to provide major relief over the next few years.

Structural adjustment is used in a second, micro, sense, corresponding to policy measures that increase the efficiency of the price system. It is argued that most of the developing economies need to undertake structural reforms in the liberalization of trade, in domestic pricing, in the financial sectors, in public enterprises, and in the fiscal system. This view is based in part on the Shaw-McKinnon thesis that financial liberalization played a key role in successful Korean economic development, in part on substantial research on trade liberalization, and also on general economic principles and the weight of experience in developing countries. No doubt the U.S. political climate and the contrast between a dynamic U.S. economy in which deregulation has been a catchword, and a slow-growing regulation-encrusted Europe have contributed to this view.

Nonetheless, some experience with liberalization programs has been unfavorable (the Southern Cone), and micro adjustment can certainly impose short-run costs. The case for micro adjustment will have to be made for each country based on the details of its own particular distortions and on an analysis of the likely consequences of change. The general argument for liberalization will not, and should not, be sufficient to persuade responsible policymakers to move in that direction without judging the consequences. Macro structural adjustment can take place or may be essential in any economy, socialist or free market. If micro adjustment is interpreted very generally as providing incentives, through prices or otherwise, that match true economic costs and benefits, it too could take place in any economy. But there is no question that micro adjustment in principle implies a move to greater reliance on markets and laissez faire.

Governments that have been heavily intervening in the economy will find micro adjustment programs especially difficult to implement, because the government, after the initial changes, will have to do less, not more. The slogan for governments will eventually be, “Don’t just do something, stand there.” Because micro adjustment requires more of a change in approach than does macro adjustment, the case for particular reforms will have to be made by careful analysis rather than assertion.
The discussion that follows develops the argument outlined above. Because it is about growth and adjustment in general rather than in a particular country, it suffers from a lack of specificity. The adjustments that have to be made in particular countries in the next five years will depend on their structures and their past mistakes. There is no common model, and there is no single prescription that will apply to all of them. Certain problems, such as the need to maintain real exchange rates at appropriate levels, and principles, such as the need for greater efficiency through more reliance on markets, no doubt apply to all countries, but that does not reduce the need to focus on the specifics in each country.

Short-run adjustment to the debt crisis took place largely through restrictive aggregate demand policies and real devaluation that reduced the real wage. The real devaluation and fall in the real wage were secured in the short run by restrictive demand policy. A major medium-term question is whether the change in the real exchange rate can be maintained as output returns to its full-employment level. That in turn depends on whether the real wage, measured by domestic consumption, can be maintained.

Real Adjustments

Analysis of medium-term macroeconomic adjustment in principle requires a fully articulated model of the economy. Some large-scale econometric models of the industrial countries could be used to analyze both macro and micro adjustments in those countries. Computable general equilibrium models of developing countries can in principle provide similar information. Econometric models provide useful consistency tests of policy packages and continue to be used in central banks and treasuries. Prediction results are usually better than simple autoregressions, but not much.

It would be useful to work toward the creation of structural models of this type for developing countries. The difficulties are easy to state. But the models are useful precisely because they force the analyst to set out the structure of the economy and to focus on the relationships that determine the outcome of policy changes. The development of such models—the sophistication of which will differ among countries—will take time. But even small-scale models focus the discussion of policy measures and the analysis of different approaches.

The failure of large-scale econometric models and computable general equilibrium models to match up to naively optimistic hopes has led to a reaction against modeling in general and large-scale modeling in particular. The lessons to draw are twofold. First, sophisticated use
of models requires not taking them too seriously. All models, large or small, at best provide a possible scenario of policy changes. That scenario should itself be the subject of critical analysis before it is used in policymaking—and this point is surely well known. Second, until consistent models incorporating both real and financial sides of the economy at an appropriately disaggregated level are available, smaller-scale models focusing on particular aspects of development and stabilization should be used. The alternative of forsaking models altogether and relying on general principles to guide advice giving and policy evaluation is not feasible: policy cannot be evaluated without counterfactuals, and counterfactuals require the use of either an explicit or an implicit model.

To analyze macro adjustment, it will be useful to work at two levels: a medium-term real model that produces paths of real activity consistent with the paths of the trade account and budget that are needed over the next two years, and a shorter-term model incorporating both the real and financial sectors.

The Real Model

The purpose of the real model is to focus on medium-term real resource adjustments. Depending on the economy, the level of aggregation would involve four or five producing and consuming sectors, such as agriculture, services, natural resources, and a slightly disaggregated industrial sector. The model would embody production functions, adjustment lags in moving resources between sectors, net export constraints, factor supply constraints, and (optionally) a utility function.

Target paths for the composition of supply and demand can be chosen either exogenously or by maximization of the utility function. These target paths would imply policy measures needed to achieve the desired adjustments. This section discusses the likely outcome of such an analysis, applied to a country whose primary problems are external balance and low domestic output relative to capacity.

To the extent that substitution is possible—and over a period of years substitution is possible—efficient structural adjustment to reduce the current account deficit will require a rise in the relative price of tradables. The process has to start with a real devaluation. With short-run substitution limited, domestic production costs will rise following a devaluation. Differential exchange rates for imported consumption goods and inputs can ease the effects of devaluation on domestic production costs, but such subsidies have to be temporary if they are not to inhibit substitution.

Generally, the adjustments will imply an initial cut in real wages, followed by later increases as productivity rises. The acceptance of
real wage cuts will usually be an important part of the adjustment program. If there is indexing of wages, it will be necessary to adjust the base wage downward. Incomes policy may be a means of reducing adjustment costs to the new structure of supply and demand. Real wages appear to have been remarkably flexible in the early stages of adjustment in the large debtor countries. Whether such flexibility will remain as the economies move closer to full employment remains to be seen. But without such flexibility, a situation of permanent unemployment or underemployment becomes likely, as it has in Europe.

Over a longer period, the resumption of real growth will depend on increasing the capital stock. The restoration of investment thus becomes an important goal of policy in both the short and long runs. In the short run renewed investment, particularly for export and import substitution, reverses the austerity that has hitherto accompanied balance of payments adjustment. Investment is just as important on the supply side for longer-term growth.

An initial target path of investment would be determined in the real optimizing analysis described above. Such a path could be modified in the light of knowledge of the investment process in the country. The target path of investment would be achieved in part through direct government investment, and in part through private investment responding to market incentives. Private investment is determined by the cost of capital and by the prospects of future profits and sales. The cost of capital will be determined in the first instance by the world interest rate. The cost of investing domestically will differ from the world interest rate to the extent that domestic capital markets are insulated from world markets and that domestic investment is subsidized. Profit and sales prospects depend on the real wage and, for exports and import-competing sectors, on the real exchange rate that firms expect over the life of their projects. Realistic real exchange rates are thus crucial for both investment and the balance of payments.

Two important issues arise in connection with investment. The first is the extent to which foreign direct investment is to be encouraged. This is a potentially important means of securing foreign capital inflows without incurring formal debt obligations; it may also be an efficient means of acquiring technology and thus increasing productivity. Of course, the encouragement of foreign investment carries an implicit obligation to permit future profit remittances. This obligation has the advantage of being closer to equity than to debt financing.

Second, as is by now well known, investment does not make a spectacular direct contribution to growth. Assuming a marginal product of capital as high as 15 percent, an increase of one percentage point in the share of GNP invested will raise output in the next year by 0.15 percent, implying an increase in the one-year growth rate of 0.15
A major investment effort that raised the share of investment in GNP by five percentage points would raise the growth rate by 0.75 percent, given a 15 percent rate of return to capital. But recall that an increase in the growth rate of per capita output from 2 percent to 2.75 percent is large.

An important issue on the supply side is how rapidly to attempt to phase in the new structure of supply. The faster the new capacity is in place, the better from the viewpoint of employment. Since a real devaluation will have taken place at the beginning of the program, the main incentive to move resources into the tradables sector is in place immediately. The second necessary incentive for investment—the expectation of future sales and profits—depends both on export conditions and on expectations of the domestic market. With a sufficiently devalued exchange rate, and for a small country that does not produce primary goods, foreign demand can be assumed. But to the extent that investment is for the domestic market, sales expectations will not be high during a recession at the beginning of the adjustment process. A decisive real devaluation combined with investment incentives will contribute to aggregate demand. The supply side effects of the investment will take several years to manifest themselves.

In the meantime, so long as the operation of existing capacity provides positive rents, that capacity should be kept in operation by its existing owners without any subsidy. Rather than being unemployed, some labor can be kept at work using existing capital. There are two dangers in this approach. The first is that the owners of the capital will be receiving very low rates of return and will likely claim it is essential they be given relief—otherwise they will go out of business. Of course, they should go out of this business over the course of the next few years, but it remains likely that relief will be given, perhaps in the form of subsidies. Ending such arrangements is notoriously difficult.

Second, it is likely, if full employment is maintained, that real wages will not fall, thus hampering adjustment in the structure of production. Prodding from external critics may help prevent inefficient subsidies. Nonetheless, the likelihood that an adjustment program can begin without unemployment is sufficiently small that the possibility of operating existing capacity until it goes out of use should not be wasted. Further, given the sensitivity of investment to demand, a smaller recession at the beginning of the adjustment program may result in a more rapid rate of investment.

Given the expected level of output, policy has to produce the required composition of demand. Target net export levels are implied by the availability of capital inflows and by the stock of debt that determines interest payments. Given the level of output and the real product wage, net exports are determined by disposable income, the
real exchange rate, and foreign demand. Given combinations of the real exchange rate and disposable income will thus be consistent with the balance of payments constraint. Desired rates of investment have already been calculated from the optimizing analysis. The target rates of investment may require investment subsidies. Fiscal policy has to ensure that government spending on goods and services and government revenues will be in balance.

**The Speed of Adjustment**

This basic analysis of medium-term adjustment focuses on the allocation of real resources. It also produces dynamic time paths for the major macroeconomic variables. As argued by Killick and others (1984), an economic optimizing analysis is likely to produce smooth adjustment paths. Economic logic typically points in the direction of gradualism. Political logic may not. For instance, if there are costs of adjusting consumption, an optimizing analysis might imply a declining level of consumption over several years. It would likely be easier politically to apply shock treatment that sharply reduces consumption immediately, followed by a gradual rise.

Speed is an issue particularly at the beginning of an adjustment program. Suppose that instead of having adjustment forced on them, countries had realized in 1980 that they had to improve their current accounts. Should they then have devalued sharply, or should they have moved gradually toward the new equilibrium real exchange rate? An economic optimizing analysis would imply that resources should move gradually into exports. But to provide the right incentives for them to do so, the real exchange rate might have to move quickly to its new devalued level. Furthermore, the typical optimizing analysis does not include the difficulty of securing a reduction in the real wage. It is entirely possible that substantial real wage flexibility can be obtained only in a crisis atmosphere, thus making a case for shock treatment. With shock treatment growth turns rapidly negative, and then becomes positive, perhaps even quite fast, as the recession turns into recovery. With gradualism the government is required to maintain restrictive policies that may reduce GNP for year after year over several years. To the extent that the growth rate rather than the level of output or the level of consumption affects public sentiment or voting, shock treatment may be more effective despite its adverse short-term effects on income distribution.

In brief, if a real devaluation is needed for long-run balance of payments equilibrium, it is almost certainly better done immediately at the beginning of an adjustment program rather than gradually. The trouble with gradualist policy is that the very feature that makes it attractive to policymakers—painful measures can be put off until
later—makes it likely that the painful measures will not in fact be implemented when the time comes.

Sectoral Details

The time paths resulting from a dynamic optimization serve only as a general guide to policy. The overall description of the adjustment process implied by an aggregative optimizing model would have to be supplemented by detailed partial equilibrium descriptions of the components of supply and demand. On the supply side, labor supply and demand and investment projections should be presented over a four- to five-year horizon, in greater sectoral detail than is possible in a tractable optimizing model. The implied uses of imported inputs should also be described in detail, since these frequently account for the major share in imports.

Detailed external sector accounts should also be presented, taking into account imports not only of raw materials and machinery, but also consumption goods. Export projections are particularly difficult, but they have to be made.

Government budgets should be prepared for the four or five years of the adjustment program, consistent with the overall magnitudes of government spending and revenues implied by the preceding analysis. The four- and five-year projections are unlikely to be fulfilled. But that does not mean they should not be made: current decisions depend on the direction in which the economy should move. The plans have to be adjusted frequently as new conditions develop.

This real side planning projects quantities and key price variables: the real exchange rate, the real wage, and the cost of capital. The real exchange rate plays the central role in ensuring that the balance of payments constraint is met; the responsiveness of the trade account to the real exchange rate over time is well established. The real exchange rate should be high on any list of variables to be monitored in evaluating the progress of a structural adjustment program.

Inflation and Finance

With the target paths for real variables in hand, the analysis can turn to the shorter-run, more aggregated dynamic macro model to study the macroeconomic effects of policy decisions at the start of the program. Essential in any such model is the balance of payments debt constraint, the government budget constraint, a description of the assets markets, and wage and price formation. Many models of this type exist. An example, combining detail on both the real and financial sides, is Khan and Zahler (1983), in which, however, the financial sector is mainly described by the supply and demand for money.
Such a model can be used to assess the relation between structural adjustment and inflation stabilization. This is mainly a Latin American issue. Whether inflation stabilization should be part of the structural adjustment program is a complicated issue.\textsuperscript{17} Structural adjustment can take place in a high and reasonably stable inflation environment, as Brazilian experience in the early eighties suggests. But high and stable inflations are relatively rare.

The record of IMF stabilization programs is that they succeed in improving the balance of payments relatively quickly but have no success in controlling inflation because corrective fiscal action typically raises prices as subsidies are reduced (Donovan 1981). Because high and unstable inflation rates are economically disruptive, there may in particular countries be a case for attempting to disinflate in the early stages of a comprehensive economic reform and restructuring package. Coordinating the inflation reduction with structural adjustment complicates the analysis of a program and particularly complicates monitoring. The fixing of the nominal exchange rate may be part of such a package, significantly increasing the danger of real appreciation incurred in an attempt to control inflation—ending instead with failure to meet either the balance of payments or the inflation targets. Nonetheless, the Israeli and Argentinian experiences of 1985 raise the possibility that stabilization and structural adjustment can be carried out simultaneously and may even be mutually reinforcing.

Given the division of labor between the World Bank and the IMF, any structural adjustment program that included an inflation target would have to be a joint venture. An alternative to a joint program would be two successive programs, one lasting a year or two, to correct the existing balance of payments and inflation problems,\textsuperscript{18} one lasting longer to achieve structural adjustment.

However, two would be worse than one in this case. Structural adjustment measures should be taken early rather than put off until the inflation problem is solved—and in any event reducing the budget deficit for structural reasons is also anti-inflationary. It will sometimes be necessary to combine structural readjustment with inflation stabilization. This would mean modifying the target paths of output, employment, and budget for consistency with a sharp reduction in the inflation rate; the case for shock treatment is never as strong as when the inflation rate is in the three-digit range.

Monetary policy analysis is in any event needed in all adjustment programs, whether or not a major anti-inflationary program is to be part of the initial effort. Monetary analysis can start from the government budget. With both taxes and government spending determined in the real analysis, and with the external deficit given, total real domestic credit creation is known. The corresponding rate of growth

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of nominal credit or money depends on the target inflation rate. An independent monetary policy may be possible in countries with reasonably developed securities markets. Monetary policy may then have some—probably limited—ability to affect the real interest rate. The extent to which domestic rates can differ from world rates will depend on the mobility of financial capital.

In all likelihood, the policies needed to stabilize on the real side will imply a budget surplus or only a small deficit, which would remove the budgetary need for inflationary finance. This provides room for a monetary policy that is directed to inflation stabilization. A choice will have to be made about the nominal anchor to be used in determining the price level. Nominal credit, nominal money, or the nominal exchange rate are all potential targets; the actual choice would depend on the financial structure of the country. The behavior of nominal wages is the key to early success. Incomes policy or wage agreements, which are backed up with restrictive aggregate demand policies, are the most promising strategy for avoiding unnecessary unemployment.

A significant issue is whether the country permits domestic firms to borrow freely in international capital markets. If domestic firms borrow abroad, the government generally becomes the implicit guarantor of the loans. There is accordingly reason to control such borrowing. A second reason to control foreign borrowing is that capital account transactions may significantly affect the real exchange rate, the level of which is key to the success of the adjustment program. For example, the capital inflow problem commonly suffered in the late seventies by countries that attempted to stabilize the inflation rate was in part responsible for their real exchange rate appreciations. Liberalization of the capital account early in an adjustment program seriously complicates economic management.

The preceding analysis produces a broad description of the allocation of resources and policies needed to bring about structural adjustment in the economy. There is also a more detailed partial equilibrium description of both policies and the allocation of resources on a sectoral basis, attending also to monetary and exchange rate policies. All these programs or plans would be expected to extend over a period of four to five years.

The likelihood that any such plan will come close to being fulfilled beyond the first year is extremely slight. Policy mistakes or other shocks will ensure that the plans soon become irrelevant. But the plans are nonetheless essential in undertaking structural adjustment, to ensure the consistency of policy measures, and to ensure that there is a serious prospect of meeting balance of payments and growth targets. Such a plan provides a baseline from which to judge events and to justify deviations that will inevitably be needed.
Micro structural adjustment aims to improve the efficiency of the price system and the allocation of resources by reducing tariffs and import quotas; by moving to unify exchange rates; by eliminating the differential taxation and subsidization of particular sectors or industries, such as agriculture; by restoring efficiency to public investment; by dealing with the inefficiencies in public sector corporations, perhaps by selling them; by liberalizing financial markets; and by improving the efficiency of the fiscal system. This approach prompts four preliminary comments.

First, detailed calculations typically imply that the welfare costs of such inefficiencies amount to a small percentage of GNP. Removing them seems hardly worth the bother. But if all the inefficiencies together amount, say, to 5 percent of GNP, then removing them permanently brings a gain equal to the present discounted value of 5 percent of GNP in perpetuity, or about a year's GNP. That is worth bothering about and should be weighed against temporary transition costs.

Second, part of the gain from implementing such reforms will take the form of greater flexibility of the economy in responding to shocks and to incentives. The notion is that an economy with a well-functioning price system is one that permits rapid change. The finding that export-oriented economies adjusted more easily to external shocks is consistent with this view (Balassa 1983). The view has been strengthened by the stylized representation of the economic success of the United States in the last few years and by textbook indoctrination. Although the hard evidence for this view is difficult to bring to court, flexibility is a likely gain from liberalization.

Third, many of these inefficiencies may be very difficult to dislodge. Tariffs, subsidies, and quotas are not the sole preserve of the developing countries. Public sector corporations operate inefficiently in many countries. Financial systems are strictly regulated, and for good reason, in many countries. This is not to justify most restrictions, but rather to suggest they have deep political roots and that they will therefore not yield easily in a structural adjustment plan.

Fourth, such programs have to be sold to developing countries: because the payoff is delayed and there are immediate costs of undertaking structural reform, a reasoned argument has to be made for the likely benefits. Partial equilibrium analysis takes the argument a long way. Larger-scale models may be useful here, too. Without such analyses, governments are being asked to impose possibly substantial short-run costs for unknown long-run benefits.

Rather than discuss the full range of micro structural adjustments, I will focus on financial and trade liberalization. Financial liberalization in developing countries can take the form of deregulating the domes-
tic financial sector and may go further by allowing free international capital movements. Domestic financial systems are likely to be oligopolistic, in which case the key regulatory reform will be permitting entry into the industry. But total deregulation of financial systems will not and should not happen. The failure of private financial institutions always ends with government intervention. Private institutions rely on this intervention and for that reason alone have to be regulated.

Suppose that deregulation succeeds in raising the return earned by lenders (depositors) and reducing the cost of borrowing. How would growth and the allocation of resources be affected? The optimistic view is that the higher lending rate increases saving and the lower borrowing rate increases investment. The less optimistic view is that financial deregulation moves financial intermediation into banks from curb markets (van Wijnbergen 1982). There is little evidence in industrial countries that savings rates are positively related to the rate of return. If saving does not respond to the rate of return, then any increase in investment resulting from a lower cost of capital will in the short run imply an increase in the trade deficit. Increasing investment is probably desirable, but there is a tradeoff with the external balance.

Calculation of the effects of financial deregulation on the economy would start by estimating the change in the deposit rates paid by banks and in the rates charged for loans. The effects of such changes on the demand for money and other assets, and on the demand for investment goods, could be estimated from existing demand functions, and their general equilibrium implications derived from an econometric model. But deregulation might have more far-reaching effects, such as innovation in the form of deposit, in the geographical extension of the banking system, and perhaps in the kinds of borrowers reached. These effects simply cannot be estimated until there has been considerable experience with this type of deregulation. Even then, there will be no simple way of feeding the effects into a structural model and deriving the implications. One potentially serious consequence that has to be considered is the loss of seigniorage.

In the case of financial deregulation, as with most micro structural adjustments, there is a large incalculable element in predicting the results of change. Financial and airline deregulation in the United States provide good examples. Economists believed the system would work better with less regulation, and events have borne out that belief. But economists did not predict the details of airline development, particularly the hub-and-spoke pattern of operation. One important feature of better operation of the system was increased innovation—and what and how much innovation there will be is almost by definition incalculable.
The freeing of international capital movements is a more advanced stage of financial deregulation. The freedom may extend to allowing foreign banks to operate in the domestic market. Freeing of the capital account can complicate domestic policymaking. It is not advisable in an economy that is trying to stabilize the inflation rate, since small changes in confidence can have big effects on the exchange rate.\textsuperscript{22}

The issue of capital controls over domestic residents is an extremely serious one, closely connected with the problem of capital flight. Optimal portfolios are widely diversified internationally. It would not be surprising (from the viewpoint of individual optimization), if 20–40 percent of the portfolios of residents of developing countries consisted of foreign assets. As a counterpart, residents of the industrial countries will hold larger parts of their portfolio than they do now in assets of developing countries. Until a new equilibrium is reached, large capital outflows (which would be classified as capital flight) can be expected in response to changes in exchange controls in developing countries. They could be on a scale that would dominate exchange rate movements. For that reason, free capital movements should be permitted only late in a liberalization program.

The effects of trade liberalization should in principle be easier to calculate than those of financial liberalization, particularly if the liberalization takes the form of reducing tariffs. Across-the-board tariffs and export subsidy changes can be translated into implied changes in the effective exchange rate. The effects of specific tariff cuts on the domestic prices of imports can also be calculated and, given demand elasticities, so can their effects on import demand. The effects of changes in quota restrictions on the trade balance may be more difficult to calculate unless estimates of demand elasticities for the affected goods can be derived on the basis of experience outside the quota restriction period.

Beyond the direct effects of trade liberalization on imports and exports, there is the possibility that the opening of the economy to competition will increase the productivity and creativity of local producers to new heights. Much experience is needed, however, before such effects can be quantified.

Micro structural adjustment effects can be calculated for the lifting of subsidies and for changes in the tax system. The effects of selling off public enterprises or improving the efficiency of public investment, however, will be difficult indeed to estimate quantitatively. Nonetheless, there is a strong case for selling off many enterprises that are in the public sector purely as a result of historical accidents or past failure. In principle, such enterprises could be operated efficiently in the public sector. But, in fact, political pressures to maintain or create jobs will exist and are in themselves a good reason to move public enterprises into the private sector, even giving them away if necessary.
Enterprises that need to be regulated because of economies of scale, such as public utilities, present more difficult issues. The primary need is to reduce the drain on the budget typically associated with such companies. At a later stage, plans for selling and regulating such companies can be considered. Also tied up in discussion of large-scale public enterprises is the issue of foreign ownership when domestic capital markets are not sufficiently large or competitive to make sale of the enterprise possible.

The World Bank in the next few years will be moving into new territory in dealing with long-term growth. There will be a need for research to address serious gaps in knowledge about the subject. There is also a need to consider the form of agreements on structural adjustment between the international institutions and the participating countries.

The modeling of macro structural adjustment programs poses no particularly difficult conceptual issues. The lack of data and the possibility that a large variety of models will be needed will make the job long and difficult in practice. Key parameters, such as the supply and demand elasticities of imports, adjustment lags in investment, and the nature of wage behavior, may be difficult to pin down with existing data. The best available may in the end not be very good. But models can be estimated and will be useful in medium-term policy evaluations.

The monitoring strategy for macro structural adjustment programs will have to be contingent, because there is no prospect that a four- or five-year program will or should be carried out as originally intended. The several-year horizon of the program is needed to ensure that actions taken at the beginning are consistent with longer-term adjustment, not because it is advisable to set a long-term plan in concrete. The agreement under which a government enters a structural adjustment program should specify the goals and the actions expected of the government in the first two years of the plan. It should also describe the expected path of the government's actions over the remaining three years. The required actions would be both fiscal and monetary. The behavior of the real exchange rate will be a centerpiece of any adjustment plan and a key variable in determining its success.

For its part, the World Bank should spell out its assumptions about the international economy and its expectations about the paths of target variables that the required policy changes will produce. These stipulations will make it easier for the Bank and countries to agree on adjustments to policy in the later years of the programs. The Bank should view performance that falls short of the agreed target because of unexpected developments in the international economy differently.
from shortfalls caused by the failure of the government to meet its fiscal targets for domestic political reasons.

Monitoring would in the first instance examine the execution of monetary and fiscal policy actions. But the behavior of target variables—such as the real exchange rate, the current account, and investment—should also be monitored. Policy variables will have to be adjusted if target variables are off course.

As far as macro structural adjustment is concerned, monitoring and conditionality could essentially follow IMF practice, except that a larger range of variables should be monitored and the program is for a longer term. The latter feature makes contingent planning and recontracting essential.

A basic issue is whether the Bank should commit itself (subject to the good behavior of the recipient country) to a multiyear macro structural program or whether it should instead make a series of one-year loans renewable on good behavior. Because the recipient country is probably undertaking a substantial adjustment program with very little initial payoff, the Bank should be willing to commit, conditionally, for several years.

Micro structural adjustments can in some cases be fit into the same framework as macro adjustments. For instance, the removal of subsidies, tariffs, or quotas can be specified as agreed upon actions to be taken at particular times. Execution of these actions can be monitored. Their quantitative effects can be estimated and incorporated in the basic econometric model.

Even in these cases, though, agreement on policy actions may be difficult to reach. In many countries, for instance, agricultural subsidies are a key political issue. Tough negotiations can be expected over any adjustment program that attempts to remove these subsidies, economically expensive and inefficient as they may be. The Bank would then be in the position of bargaining over acceptable levels of these distortionary policies. Similar remarks apply to tariffs. In these cases the economic rationale for the change is clear, and the Bank can push for change almost uninhibitedly—the only inhibitions arise from possible adverse income distribution effects.

But, at some point, the main aim of the structural adjustment program begins to get lost. The aim is to restore growth while meeting balance of payments constraints. A complete program to maximize growth includes many elements, and the Bank will have to decide where to focus its efforts. The fundamentals are included in the macro program. Some elements of micro programs—for example, the removal of wasteful subsidies—will be very productive, and the Bank will want to push for them. The benefits of others, such as the divestiture of government corporations, may be small and difficult to establish. If the Bank is to be effective, it will have to establish

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priorities among these micro policies, for by insisting on too many of
them it may get none.

Among the research projects suggested by this review, two are key:
(a) the building of medium-term models of individual countries, first
small real models and then models with developed financial sectors
and nominal price determination features, and (b) research to estab-
lish the magnitude of welfare gains to be expected from the range of
micro structural adjustment programs currently being discussed in the
Bank.

Abstract

Four years after the onset of the world debt crisis, the issue is how to restore growth.
The answer is structural adjustment, both macro and micro. At the macro level,
adjustments have to be made to the structure of aggregate demand and supply to restore
growth while generating the needed trade surpluses. This means primarily real exchange
rates that are maintained at appropriate levels and an emphasis on investment. At the
micro level, it is argued that most developing countries need to liberalize trade, allow
the price system to operate, develop financial systems, reform taxes, and improve the
efficiency of public enterprises, perhaps by selling them. The article discusses the nature
of these two types of reforms and the policy and research issues relevant to World Bank
analysis of growth programs.

Notes

1. The following countries are included in the P group: Argentina, Bolivia, Brazil,
Central African Republic, Chile, Costa Rica, Dominican Republic, Ecuador, Guyana,
Honduras, Jamaica, Liberia, Madagascar, Malawi, Mexico, Morocco, Nicaragua,
Niger, Nigeria, Pakistan, Peru, Romania, Senegal, Sudan, Togo, Turkey, Uganda,
Uruguay, Yugoslavia, Zaire, and Zambia.

2. Here it is the comparison between the P and NP countries that points to fiscal
tightness in the former. The extent of the fiscal contraction in the problem countries is
understated by the data in Table 1, which are for the actual and not the full-employment
budget deficit.

3. The data on inflation and money growth are affected by the high levels of both
variables in a few, particularly Latin American, countries. Median inflation and money
growth rates tended to fall over the period 1980–84.

4. Structural adjustment loans (SALs) have been made by the World Bank since 1980.
For a stimulating analysis of the issues raised by such loans and programs, see Yagci,
evaluation and defense of structural adjustment programs. The IMF's World Economic
Outlook (1985), pp. 181–87, discusses structural policy measures for the developing
countries.

5. Balassa (1983) calculates that external shocks were about 6 percent of GNP for
developing countries between 1974 and 1978.

6. The more decisive the structural adjustments made by a particular country, the
greater the share of capital flows to developing countries that it will attract. Whether
there will be an overall increase in flows to developing countries, and at what interest
rates, depends to a considerable extent on fiscal policy in the industrial countries. If
European governments succumb to the lure of fiscal stimulus, while (given uncertainties
about Gramm-Rudman) the United States makes no decisive attack on its deficit, total
flows to developing countries at existing interest rates would be reduced rather than
expanded.
7. For a review of models of financial repression, see Fry (1982).

8. The famous Lucas econometric policy evaluation critique has been associated with a falloff in academic interest in large-scale econometric models. The Lucas critique describes a theoretical possibility rather than a documented cause of model failure. It further does not imply that appropriately specified econometric models cannot be used for policy analysis.

9. The structure of production in Hwa and Cherif (1985) is along these lines, but more disaggregated.

10. Reductions in payroll taxes or temporary wage subsidies can ease the burden on the wage earner. To the extent that such tax cuts are possible without violating budget targets, they are of course desirable. But it is not possible always both to reduce budget deficits and compensate all losers from the necessary structural adjustments.

11. Whether there will be recorded unemployment or underemployment or a return of workers to the rural sector depends on the details of the labor market in the particular country.

12. It would, however, be rare for an investment project to yield 15 percent in the first year after it is initiated.

13. I will take up below the relationship between the exchange rate and capital flows, and will suggest that an effort be made to insulate the real exchange rate from temporary capital account influences.

14. Two points here. First, it would take a genuine cost of changing consumption to produce the adjustment pattern described in the text. If consumption smoothing came purely from a concave utility function, then consumption would optimally adjust completely and immediately to any permanent shock. Second, economists may be wrong in their assumptions about desirable adjustment paths if the political process indeed more readily accommodates sharp cuts in consumption than gradual ones.

15. Voting in U.S. presidential elections seems to be affected primarily by the growth rate of real output in the year before the election, rather than the level of output. The outcome of the 1984 election supports this view.

16. Corbo (1986) emphasizes wages and the Phillips curve as determining prices. This explicit approach is generally preferable to the monetary approach in which price dynamics are implicit in the specification of adjustment lags in real money demand.


18. This still leaves the IMF with responsibility for an inflation stabilization program.

19. Systematic research on past plans’ successes and failures, dismal as such backward-looking work may be, will have high payoffs in teaching how to avoid similar mistakes in future.

20. For example, Feltenstein (1980) and Khan and Zahler (1983).

21. Several conference participants claimed that since the benefits are mainly dynamic, it is difficult to evaluate them. That may be so, but then a positive argument has to be made for believing the benefits exist.

22. This problem is analyzed in the Israeli context in Bruno and Fischer (1986).

23. It would be useful to conduct a review of the various five-year plans that have been adopted by developing countries to study the successful and unsuccessful strategies followed in those cases.

24. The more ambitious and detailed the structural adjustment plan, the greater the strain on economic analysis and decisionmaking capacities in the affected country. Economic expertise and political will are also scarce resources to be allocated efficiently in the execution of economic policy.
References


