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(continued on inside back cover)
The Structuralist Approach to Development Policy

By Hollis B. Chenery*

Several approaches to the analysis of developing economies have evolved over the past twenty-five years. From a methodological standpoint, they can be grouped under three main headings: neoclassical, neo-Marxist, and structuralist. The first two attempts to adapt systems of thought that were initially formulated for the study of industrial societies to the less developed countries. The structuralist approach attempts to identify specific rigidities, lags, and other characteristics of the structure of developing economies that affect economic adjustments and the choice of development policy.

The initial set of structural hypotheses was formulated in the 1950's by writers such as Paul Rosenstein-Rodan, Ragnar Nurkse, W. Arthur Lewis, Paul Prebisch, Hans Singer, and Gunnar Myrdal. They explain phenomena such as balance of payments disequilibrium, unemployment, and worsening income distribution on the basis of particular properties of demand and production functions and other specifications of economic behavior. A common theme in most of this work is the failure of the equilibrating mechanisms of the price system to produce steady growth or a desirable distribution of income.

The success of a number of developing countries in accelerating their rates of growth in the 1960's casts some doubt on the significance of the structural problems that had been identified in the previous decade. However, in the past few years the importance of structural rigidities has been reemphasized by several new phenomena: the limited ability of economies to absorb the growing labor force, the worsening of the income distribution in several developing countries, and—most recently—the disruption to world trade caused by increased oil and food prices, which will require a substantial adjustment in productive structures. In short, development policy again seems to be constrained by a number of structural factors that require a more explicit analysis of the possibilities for short-term adjustment and for longer term changes in the economic structure itself.

In this brief survey, I will try to present an overview of structuralist methodology and to compare some of its policy conclusions to those of the other main approaches. Since there is not yet a unified theoretical framework for structural analysis, I will select formulations that seem to provide a promising basis for future research.

I. Methodology

The methodology of structural analysis has evolved over the past twenty-five years from a set of rather intuitive hypotheses to models of increasing empirical validity and analytical rigor. This evolution can be summarized in three stages: formulation of hypotheses, empirical testing, and the elaboration of more complete models. This sequence can be illustrated for two of the basic elements of structuralist systems: the concept of a dual economy and the concept of complementarity in demand, which underlies theories of balanced growth.

* Vice President for Development Policy, World Bank. I am indebted to Bela Balassa, Helen Hughes, Graham Pyatt, and Wouter Tims for helpful comments.
The concept of a dual economy stems from the observation that development takes place unevenly both within and between sectors of an economy. Although this concept has had many different formulations, the most influential is that of Lewis. He makes three basic assumptions as to the structure of a developing economy: (1) that technology can be divided between capital-using (capitalist) and non-capital-using (subsistence); (2) that the labor supply is elastic at a conventional wage; and (3) that saving is done largely by the recipients of nonwage income (capitalists). These assumptions, or variants of them, have been incorporated in models that explain the acceleration of growth, the allocation of the labor force, and changes in the distribution of income.

The early formulations of concepts of balanced growth by Nurkse and Rosenstein-Rodan also relied on a simple set of structural hypotheses: (1) a generalized version of Engels' law, specifying that consumer demand for food, clothing, shelter, and other major commodity groups is mainly a function of income and little affected by relative prices; (2) a similar assumption as to the limited price elasticity of demand for exports; and (3) in Rosenstein-Rodan's formulation, the importance of economies of scale in overhead facilities and basic industries. The first two assumptions make it necessary to expand output and allocate investment in close relation to the pattern of domestic demand. They also provide an explanation for structural disequilibrium and slow growth in countries that fail to do so.

Both sets of assumptions have in general stood up well to subsequent empirical tests. The acceleration of population growth has probably made the surplus labor assumption more generally valid today than when it was initially formulated for underdeveloped countries. Econometric tests by R. Weisskoff and C. Lluch and A. Powell provide some support for the generalized version of Engels' law underlying the theory of balanced growth, since they show most price elasticities to be less than unity. Among the basic structuralist assumptions listed, only the assumed inelastic demand for exports needs to be seriously qualified.

The third stage of theoretical refinement and policy application has proved more difficult. In the first place, it has been shown that the structural relations posited are not sufficient to lead to some of the policy conclusions suggested in the original formulations. As in the case of the Keynesian assumptions, a more complete formulation of models that can be statistically estimated has proved necessary in order to reach useful policy conclusions. Much current work consists in developing a second generation of models in the structuralist tradition that are designed for statistical application in individual countries, rather than for deriving broad generalizations.

The structuralist approach has had a substantial impact on both internal and external development policies. In both instances it focuses on identifying the consequences of various kinds of structural disequilibria. In domestic policy, the principal phenomena examined have been the effects of surplus labor on resource allocation and more recently the interpretation of worsening income distribution as resulting from a set of disequilibrium conditions. In international policy, analysis has focused on the nature of structural disequilibrium in the balance of payments and its effect on trade and aid policies. The following sections examine some of the relationships between the methodology employed and the policy conclusions reached in these two areas.

II. Internal Development Policy

Unlike the neoclassical assumptions, the structuralist alternatives do not lead auto-
matically to policy conclusions. To produce such conclusions, they must also be embodied in an explicit general equilibrium framework. For this purpose, most analysts have used one of two simple models: either a neoclassical model with particular structural relations added or some version of a linear Leontief input-output model, which excludes most forms of substitution. The neoclassical framework minimizes the effects of the specific rigidities in the economic system, while the input-output system tends to exaggerate them.

Most elaborations of the dual economy and surplus labor concepts have been made in a two-sector neoclassical system, as in the work of J. C. Fei and G. Ranis, L. Lefeber, and A. C. Kelk, J. G. Williamson and R. J. Cheatham. One policy result from this type of model is to determine the shadow price of labor, which can then be used in project evaluation and in establishing the need for labor subsidies. Empirical applications of these models have been limited by the lack of data on different aspects of dualism. It will require some expansion of the two-sector framework before statistical estimation of the underlying structural relations becomes feasible.

The balanced growth hypotheses have been widely used in empirical analysis and are usually incorporated in input-output models which include foreign trade. These are applied to the formulation and testing of development plans, as illustrated in surveys by Chenery (1971) and A. Manne. Apart from its use in country planning, this type of model can also be used to deduce more general propositions through systematically varying the structural parameters and determining a set of solutions based on either simulation or optimization.

This form of sensitivity analysis lends considerable support to some of the conclusions of balanced growth theorists. For example, it is necessary in larger countries to expand agriculture at a rate that is largely determined by the income elasticity of domestic demand for foodstuffs because of the limited possibilities of expanding nonagricultural exports to offset a shortfall. Failure to meet this condition has retarded growth in a number of countries. This conclusion does not apply when industry is disaggregated to individual sectors such as steel or fertilizer, however, in which the optimal investment allocation to sectors having economies of scale is characterized by the alternating pattern of expansion of production and imports described by T. Seitzovsky and by Chenery and L. Westphal.

The elaboration of structuralist hypotheses in planning models has also focused attention on the value of flexibility in adapting resource allocation to changing circumstances. This problem does not arise in the neoclassical system, which assumes perfect foresight and a high degree of substitutability. When these assumptions are abandoned, flexibility can be provided by increased exports or capital inflows and by planning some excess capacity in physical and human capital stocks. Although a formal treatment of the benefits of flexibility and the ways of achieving it has not been developed, this is an important problem for developing countries which cannot be analysed in the neoclassical system.

The revival of interest in income distribution has added a new dimension to structural analysis. The traditional approach focuses on the division between wage and nonwage income and is ill suited to developing countries, in which modern sector wage earners are in the middle-income groups. Recent studies by M. S. Ahluwalia have brought out the fact that the bulk of the poorest groups in developing countries are self-employed and largely rural. Their incomes depend more on the availability of land and capital and access to public facilities than on wages. Since
each of the main poverty groups—small farmers, landless laborers, urban self-employed—has a different set of productive possibilities and constraints, a new form of structural analysis based on identification of these groups is necessary for distribution-oriented policies.

This recognition of the importance of asset distribution does not necessarily lead to the Marxist conclusion that the redistribution of existing assets is the only alternative. Measures to redistribute increments in income and new asset formation are more likely to be acceptable to the majority of the population and less disruptive of development in most countries. Development strategies based on this approach are elaborated by Ahluwalia and Chenery. The neo-Marxist policy recommendations suffer from the same defects as the neoclassical in that they are implicit in the initial assumptions rather than being derived from an analysis based on empirical estimates of the underlying structural relations.

III. External Policy

The conflict among the three analytical approaches is perhaps most acute in the area of external policy. The neoclassical approach tends to exaggerate the benefits of trade in an open economy when it does not explicitly consider the effects of uncertain export prices and the difficulties of shifting resources to meet changing market conditions. Conversely, the neo-Marxist approach exaggerates the costs of “dependence” on external trade and investment and tends to ignore the benefits of the technological transfers that accompany them. The early structuralist views have also proved to be excessively pessimistic as to the possibilities and benefits of non-traditional exports of manufactures and services.

The structuralist concept of development as characterized by rigidities that limit economic adjustments requires an analytical framework in which external policy is more closely linked to domestic resource allocation than does the neoclassical view, which minimizes these restrictions. Attempts to formalize these relationships started from simple two-gap models, which incorporate explicit limits on the rate of increase of domestic saving, investment, and exports. These models were elaborated by including optimizing procedures and shadow prices, the disaggregation of productive sectors, and more explicit treatment of structural change over time, as in the work of Chenery and A. MacEwan, M. Bruno, and S. D. Tendulkar. Experiments with these types of models in a number of countries have led to several general conclusions as to development analysis and policy, the most significant of which are: (1) the enhanced value of increased exports and capital inflows in bottleneck situations, in which the trade limitation is more restrictive than supplies of capital and skilled labor; (2) a restatement of the empirical basis for assessing comparative advantage over time in relation to the factors limiting development; and (3) clarification of the relation between internal and external constraints in the evaluation of individual investment projects.

During the 1960’s a number of countries progressed from an initial strategy of import substitution to the promotion of manufactured exports after they had developed a sufficient industrial base to do so. As countries achieve a more diversified productive structure and reduce their concentration on a few exports, the difference between the neoclassical and structural prescriptions diminishes because some of the constraints that had previously limited growth are no longer significant. An assessment of the experience of some of the industrializing countries that have made this transition—Taiwan, Israel, Korea, Brazil,
Mexico—suggests that earlier conclusions as to the high cost of the initial stage of import substitution need to be reexamined in light of the subsequent ability of the country to shift to manufactured exports and break out of the phase of trade limited development. This evaluation suggests that the dichotomy between inward-oriented and outward-oriented policies has perhaps been overdrawn, and that these policies can be more usefully viewed as sequential elements of a strategy designed to bring about changes in the structure of both production and trade.

The basic issues of the relations between trade and growth have been reopened in a new form by the substantial changes in relative prices that have taken place over the past two or three years. The main beneficiaries have been the oil-producing countries, which now have a structural problem of unprecedented magnitude in increasing their capacity to utilize their greatly increased export revenues. Most of the rest of the world has the opposite problem of adjusting its economic structure—through import substitution, increased exports, and redirecting trade—so as to accommodate a substantial worsening in its terms of trade. Not only has world income distribution been made worse by the present and prospective reduction in growth of the poorest countries, but within these countries the policies to improve income distribution are also being weakened. For most developing countries, increased import prices mean a return to a condition of a dominant trade gap and large capital inflows for the next few years. They need to give highest priority to reallocating resources so as to expand exports and gradually reduce capital inflows over a reasonable period.

This shock to the system of world trade has emphasized the advantages of the more flexible economies, such as Taiwan, Korea, and Brazil, which appear to be able to absorb large increases in import costs through a combination of increased exports and borrowing, while still maintaining substantial rates of growth. Conversely, the countries most severely affected by the rise in oil and food prices are those which are dependent on primary exports, whose prices kept up with world inflation for only a brief period, and which do not have the flexibility to shift readily to other exports. Unless oil prices are drastically reduced (which seems unlikely), substantial increases in capital flows to these countries will be needed over the next few years if they are to sustain even moderate rates of growth.

IV. Conclusions

The preceding discussion has illustrated the relations between theoretical premises and policy implications in several fields of development. The simplifying assumptions of the models currently in use tend to exaggerate the differences between neo-classical and structuralist prescriptions. As statistically determined relations replace a priori hypotheses, it is predictable that these differences will be reduced. A similar process can be hoped for when neo-Marxist theorists turn their attention to verifying their hypotheses.

Although better knowledge of elasticities of substitution in demand and production would do quite a bit to reduce the conflicts in policy guidance, several real differences in basic concepts remain. Neoclassical policy consists essentially in removing impediments to the functioning of markets so as to make the real world as much like the abstract model as possible. However, it will never be possible to achieve perfect knowledge or instantaneous adjustment to market signals. It is therefore necessary to incorporate these “imperfections” into the model itself. Once this has been done
it will become possible to take account of the existence of internal or external disequilibria and to devise more realistic policies to cope with them. In the theoretical literature, these policies are misleadingly referred to as "second best" in relation to the neoclassical model. It would be more accurate to characterize the model itself as overly simple and "first best" policies as simply unattainable. More attention should be given to improving the realism of basically neoclassical models instead of discarding them in favor of equally oversimplified structuralist formulations.

In minimizing or ignoring the advantages of market adjustments, structuralist (and Marxist) policy prescriptions usually put too much weight on the limited administrative apparatus of developing countries. As A. Hirschman has stressed, this is one of the main limitations to development; it should be allowed for by not seeking too much fine tuning of development policy. Difficulties in implementing a complex set of policies may prove much more costly than the allocative inefficiency of a simpler program that can be more readily carried out.

Finally, it must be recognized that the task of development has been made much more difficult for most countries by the recent changes in the world economy. Virtually every country is currently suffering from more or less serious disequilibria in its economic structure. Despite our desire to give greater weight in development policy to distributional considerations, this cannot be achieved without giving equal priority to adjustments in external trade and capital flows.

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