

IMPORT SUBSTITUTION AND ECONOMIC POLICY:
A SECOND REVIEW

by

John Sheahan

Reproduced by
NATIONAL TECHNICAL
INFORMATION SERVICE
U S Department of Commerce
Springfield VA 22151

AID/ead - 2475
Research Memorandum No. 50

Center for Development Economics

WILLIAMS COLLEGE
Williamstown, Massachusetts

August 1972

IMPORT SUBSTITUTION AND ECONOMIC POLICY:
A SECOND REVIEW¹

Economic development requires diversification of production. This should mean both a progressive replacement of particular imports by domestic production and the addition of new exports. Protection can help this process, if used carefully, or can tie it up in knots if done badly. It is almost certain to be done badly if import substitution becomes elevated to the status of a goal in its own right, as if substitution itself were the key to development. It is more likely to give constructive results if it is oriented to stimulate experiment and to diversify the economy through selection of the particular new lines of production best suited to the country, at a pace the country is able to digest.

When the Williams College research studies on import substitution began, seven years ago, the majority of the developing countries using aggressive policies of substitution were doing so in decidedly non-selective and poorly controlled ways. In some cases, this may have meant little more than that economic policy was dominated by businessmen eager to get

1. This review refers chiefly to research on import substitution carried out at Williams College with AID support from July 1969 through June 1972. For a survey of research results in the preceding four years, see Henry Bruton (1970).

protection from import competition. But in many countries it was also a key part of the understanding of development strategy by both academic economists and government officials. Arthur Lewis (1955) and Ragnar Nurkse (1955) were perhaps the leading economists who shaped everyone's thinking in the 1950's toward a focus on diversification for the home market as a way to get out of excessive dependence on production of raw materials for export. Raul Prebisch and the Economic Commission for Latin America were highly influential in encouraging many countries in that region in the same direction (1950, 1959). But there were few developing countries in any region which did not go in this direction, and few at that time who did so with any great evidence of selectivity.

In the course of the 1960's, growing evidence of difficulties associated with stress on import substitution and real changes in the opportunities open to countries reaching the stage of semi-industrialization led to increased concern for questions of costs and alternatives. Such concern for efficiency should open the way for more successful development policies, with fewer adverse side effects. But allocative efficiency is only part of the question. It must be reconciled with, or joined to, efforts to stimulate experiment and to apply continuous pressure for improvement of productivity. The present paper attempts to bring issues of allocative efficiency and of stimulus to structural change into clearer relations to each other.

Part I of this paper is concerned with examination of

the ways in which import substitution may conflict with, or be guided by, considerations of international specialization and efficiency. Part II reviews issues of employment, wages, productivity and capital utilization. Part III considers questions of domestic income distribution and their relationships to alternative methods of import substitution.

I. EFFICIENCY AND DIVERSIFICATION

It has always been downright awkward to reconcile the classic vision of efficiency through international specialization with policies intended to promote import substitution. The ideal of specialization seems on the face of it to rule out the diversification that is an essential characteristic of every modern economy. It is hardly surprising that many policy makers in developing countries simply swept the notion of specialization out of the way as a misconception, if not a deliberate fraud meant to keep the developing countries in a dependent position. They were surely right to reject any passive course of continued specialization on primary production; development does require diversification. But diversification can be done well or badly. To shut off imports and start domestic production without good principles of selection, as so many Latin American countries did in the 1950's, leads to tangled-up structures of production and continued dependence on external conditions, to change without direction (Macario, 1964; Felix, 1968; Baer, 1972).

In the best of all possible worlds, coherent selection of new lines of production could be left up to choices of individual producers without any protection at all. If the domestic price level were in close contact with external prices, then new opportunities to undersell imports would gradually emerge as knowledge and capital accumulated. But most developing countries find it extremely difficult to maintain competitive price levels or an accurate structure of relative prices. In practice, if neither protection nor subsidies were offered to new producers, there would be little diversification forthcoming. The trick is to offer protection or subsidies in ways that will stimulate activity in the particular directions most appropriate for the country's goals.

A. Efficient diversification

Arguments for diversification through import substitution got off to a bad start in the postwar years because they leaned so heavily on the belief that export earnings were externally determined. Nurkse and Prebisch in particular created convincing projections of a world in which increasing domestic incomes would have to be based on production for the home market. Given the assumption of restricted export markets, rising incomes would require a reduction in the ratio of imports to total supply. Consistent with this vision, economic planning in the 1950's invariably involved a separation between a passive projection

of export trends and an active program for expansion of domestic industries intended to match the pattern of increases in demand. There was little or no attempt to consider relative costs of different lines of production because the basic premise was that it would be necessary to produce practically everything needed to meet domestic demand.

In a sense, the arguments about static export markets and deteriorating terms of trade may be seen as an attempt to get around the principle of comparative advantage and international specialization; the principle was not so much refuted as declared to be inapplicable because of inelastic demand for primary exports. This is, of course, no answer at all. If demand conditions were in fact impossible for the primary exports of a particular country, then the principle of comparative advantage would say to pick out the best non-primary lines of production appropriate for that country and concentrate on them. It would still be a criterion of selection, calling for import substitution, and then exports, of the one or few lines of production best suited to the country. But is that the right answer for development policy? Is there anything misleading about the idea of comparative advantage itself?

Hollis Chenery was one of the first to face directly the issue of comparative advantage versus development (1961). He applied linear programming techniques to bring out the conclusion that interactions among activities require a joint solution of the set most efficient for a given country. The

argument supported a planned approach to development rather than reliance on market forces but it did not in any way contradict the idea of selection. On the contrary, it called for the use of comparative advantage as a principle of planning: for concentration on the optimal set of activities and use of imports to supply those goods for which the opportunity cost of domestic production exceeds that of producing the exports to pay for them.

Chenery's theoretical system seemed to imply the need for a new programming solution every time that any input coefficients changed. This would mean shifting the activities included in the optimal group rather than any necessary expansion of the set itself. But his empirical studies of growth patterns suggested instead that all countries follow norms of diversified industrialization appropriate for their size and natural resource endowments, without any great differences among them in the sequence of addition of new activities (Chenery, 1960; Chenery and Taylor, 1968). The question of choice and efficiency dropped out of sight. What was missing was any clear concept of how changes in costs over time could be related to current decisions on when to add or to delay a specific new activity. Henry Bruton added just this kind of cost criterion in one of his earlier Williams studies and has gone on to develop it further since (RM-13 and 1967; supplementary note to RM-28).

Bruton's analysis constitutes a dynamic version of comparative advantage focused on rates of change in productivity. The principle of selection is a balance between initial

relative costs and projected rates of productivity improvement. If an activity has an initial cost disadvantage, this still means that protection to support it will reduce current national income. But if the activity has a high rate of productivity growth, it may then raise the economy's overall growth rate sufficiently to compensate for the initial loss; the growth rate could become and remain higher than it would have been in the absence of initial protection.

The original explanation of this principle used a relatively simple criterion: choose and protect those activities for which above-average productivity growth can offset their initial cost disadvantage within ten years. This has been restated (a) to compare domestic rates of productivity growth to rates of change of import prices, (b) to take account of time preference and discount rates instead of an arbitrary ten-year tradeoff, to bring the consideration of both price and productivity trends into a more formal framework (Bruton, supplementary note to RM-28). Application of comparative advantage then moves past a comparison of relative prices with a given production function, to a question of investment allocation aimed at the series of future production functions which will maximize growth (Sheahan, RM-33).

This more dynamic formulation of comparative advantage raises a number of problems but points in all the right directions. It provides, at least in principle, an objective criterion for rejection of inappropriate activities. It directs attention

to costs of production and thus toward policies which may help to reduce them. And it brings the terms of trade into the picture but it puts them in a context where they help determine efficient choices rather than obscure the whole question of selection.

The problems with this principle relate chiefly to questions of the causes and the predictability of productivity gains. At least three different general sources of productivity improvement should be considered: (1) those arising from general background increases in productive capacities of the whole economy, through capital formation and accumulated experience; (2) external progress in the countries in which new activities originate, in the direction of simplified and standardized production processes; (3) learning processes of domestic producers engaged in the particular activity in question, and thus dependent on the initial decision to start the specific activity. If productivity gains are projected for an industry on the basis of either source (1) or source (2), but the activity would initially have excessive costs requiring protection, then protection would not be an efficient solution. Growth would be faster if the activity were delayed until continued progress through either (1) or (2) made it possible to start production on a competitive basis.

It is only source (3), the specific learning process within the industry, that could readily justify initial protection. But that implies that the country can not have any evidence beforehand on what its own producers can do to improve

productivity. It can only be a gamble, not a prediction from evidence. If the evidence in favor of the particular gamble is very strong (based on experience in other countries or similar activities), then one might well ask again why the producer should need protection. If he can foresee early cost reductions sufficient to offset the initial loss, why shouldn't he be expected to take the loss himself instead of imposing it on buyers who will be required to pay higher prices?

Finally, if comparative productivity gains could be accurately predicted, to take them into account would lead back once again to a solution in terms of one or a few preferred activities. It would again argue for concentration rather than diversification, though the fields of concentration could now take future changes into account. But that still does not seem to be the right solution because the development of a modern economy inevitably, and rightly, does involve a continuous movement into new fields widening the range of activities. Where does the principle go wrong?

The trouble is that the concept of comparative advantage leaves out the possibility of discovering valuable new lines of activity by experiment. Development implies a process of search and learning in a context of continuous change in the structure of production (Nelson, Schultze, and Slighton, 1970). This essential process of exploration gives value to extension of the range of productive activities and thus runs into direct conflict with the idea of specialization. But successful

development requires that the two opposing principles be kept in balance with each other: that diversification proceed but that comparative costs be used to screen out initial mistakes and that pressures for efficiency be applied to limit the damage from those errors that are bound to occur.

E. Learning and structural change

The fundamental value of diversification is that it means an increased range of search and learning. That value simply gets left out of the principle of comparative advantage. To leave it out may not be a serious error for an economy which is already endowed with entrepreneurs actively exploring new possibilities in widely diversified directions. To leave it out for a developing country is a crucial error because development requires the country to establish the basic conditions of effective search by diversification.

The other side of the issue is that the gains of diversification do not come free. New activities draw on the limited resources available for investment, on foreign exchange to import equipment and supplies, and on managerial capacities that could have been used to improve techniques in existing activities. Comparisons of costs among alternatives remain a vital part of the process of choice as to which and how many new activities can be attempted in any given period. The conventional approach to benefit-cost measurement is right on the side

of costs. What it leaves out is part of the benefit. The benefit is not only the direct product of the activity, as measured by the change in national income attributable to its output. The benefit includes a second component: the increase in capacity to transform resources that becomes possible because of experience that can only be gained by entry into the new activity.

The proposed approach is similar to that of comparing future productivity gains to present relative costs, if productivity improvement is understood to include increased capacity to transform resources and explore new opportunities. It would call for initiating production in lines which have a current comparative disadvantage provided that they offer a combination of learning and direct income that compares favorably to expected costs. Genuine learning would be likely to be reflected in rising productivity in the specific field, so that criterion of choice would usually be appropriate. The difference is that the search hypothesis suggests trying more diversified activities, adding on an effort to evaluate general contributions to the learning process, and then taking away protection from those experiments that prove to be mistakes so that resources will be re-directed away from them.

Protection can serve as a bait or reward to induce producers to move in new directions. But if they are simply assured a known market, free of external competition regardless of the quality and costs of their products, it can also foster a

deadening dependence. That kind of indefinite protection without regard to efficiency -- a kind not infrequently observed in practice -- does not stimulate imagination and continuing effort. It is much more likely to reenforce defensive attitudes and imitative methods (cf. Hirschman, 1968, and Muns, 1972, esp. p. 281). Protection without sufficient concern for stimulus to learning can lead to forms of investment so alien to the existing structure of the economy that producers simply buy plans and equipment without any real understanding on their part of the processes and alternatives involved (Bruton, 1970, pp. 136-37). Lacking any pressure to explore alternatives, the domestic producer may demand inputs inappropriate to the economy and refuse to risk the adaptations needed to make better use of domestic resources. Protection intended to promote structural change has to be selectively oriented to those fields in which the technology is a step beyond the familiar, but not so far beyond it as to discourage the experiment necessary for learning.

Development is a sequence of trial and error, of stimulus and correction. Producers need to be encouraged but to be denied secure profits from repetition of the known. They need to be brought into new activities that are within the limits of complexity they can learn to manage, and then they need to be pushed to improve production methods and branch out to new activities. Incentives to export should be raised in parallel to incentives for import replacement so that those producers who are successful can expand beyond the limits of the domestic market. That would

involve a kind of import substitution more nearly similar to that practiced by the more developed economies, where it has "ceased being mainly a mechanism of industrialization, and became in the twentieth century part of a continuing process of growth and of a changing pattern of industrial specialization" (Baer, 1972, p. 96).

A continuous stimulus might be provided by authorizing several new lines of import substitution each year and then gradually reducing the degree of effective protection for each of them, either by reducing nominal protection on the end-product or by bringing tariffs on inputs up towards the rates allowed for the final product. The latter technique would both put pressure on producers to search for domestic inputs and create new import substitution possibilities for potential suppliers of the inputs. But increasing protection against imports should always be accompanied by equivalent increases in incentives to export, so that increases in domestic prices will not destroy the possibility of developing new exports.

The proper balance between protection to stimulate initial action and its subsequent reduction to correct errors and foster continuing effort probably changes systematically with the country's stage of development. At the beginning of industrialization, the main need is to get change and diversification underway. To be too sticky about the degree of protection allowed, or to take it away too rapidly, could discourage experiment completely. But as diversification proceeds and

requests for protection to enter new lines of production begin to mount, higher degrees of protection begin to take on greater significance as higher opportunity costs in terms of alternatives that are blocked by lack of resources. An aggressive policy of protection for diversification can be overdone anywhere, anytime, but it makes somewhat more sense in Ethiopia at present than it does in Nigeria, and none at all in Brazil or Mexico. The initial responsibility of development policy is to encourage an active process of search and learning; as that responsibility is met, the new one is to channel it with increasing efficiency.

II. EMPLOYMENT, PRODUCTIVITY, AND UTILIZATION OF CAPITAL

Import substitution and industrialization in general were expected to, and have, provided employment opportunities in new industrial activities. But the surprising side effect in many developing countries is that unemployment has somehow become a more serious difficulty than it was in the first place. Many current investigations are aimed at explanation and correction of the unemployment problem; it has to be regarded as a set of issues under inquiry rather than as something which has been explained. But a number of the Williams research studies have established results which help clear up some of the major questions involved. These include: (a) relationships between productivity change and employment; (b) effects of wage

structures and capital costs; and (c) effects of trade policy.

A. Productivity change and employment

Even where rates of investment and growth of industrial output have been fairly high, the absorption of labor into such production has been relatively slow. This has been observed in the great majority of developing countries, though perhaps in the most striking degree for African countries (Baer and Herve, 1966; Eriksson, RM-36; Frank, 1968). The low ratios of employment growth to output growth mean, of course, that output per man in the industrial sector has risen rapidly. Increasing productivity has usually been considered to be a positive achievement, but the achievement sometimes seems to amount to a disaster. Is productivity growth something that a developing country should encourage or discourage, in what sense, and by what means?

"In a country like Colombia where unemployment is widespread, total output can be increased in two ways; either by raising productivity (output per person employed) or by increasing the number of persons employed. Productivity is thus no longer the infallible guide to economic progress, and this for two reasons. In the first place, it may be economically more efficient to raise output by increasing employment, with productivity constant, than by increasing productivity with employment constant. In the second place, the urgent social

need to increase employment leads one to prefer methods which raise output by expanding employment rather than by methods which increase productivity" (I.L.O., 1970, pp. 157-58).

The I.L.O. position is not so much an argument against increases in productivity as it is an argument against distortion. The distortion is a situation in which output per man rises rapidly for one group of people, those who are employed in sectors with higher productivity, while other people are excluded from participation in those sectors. Increasing productivity in terms of output of the whole labor force remains a highly desirable goal. Increasing productivity for one group of workers, with the rest of the labor force excluded, implies a slower rate of growth of output for the country than would have been possible if more people had been able to enter the favored sectors.

Bruton's study of employment and productivity (RM-44) makes the issues clear with respect to the first of the two considerations argued by the I.L.O., the relationship of efficiency to productivity gains. Improvements in productivity in the manufacturing sector, in the sense of increases in the marginal product of employed workers, create an incentive for employers to add new workers. Assuming that the marginal product of workers outside manufacturing is below that within the sector, the efficiency and total output of the economy will rise along with employment in manufacturing. But the increase in employment will keep the actual, observed productivity of

labor in that sector from rising as rapidly as it would have if the number of workers had not increased.

Improvements in methods of production which raise the marginal product of employed labor can be viewed as increases in potential productivity. They open up a new opportunity to choose between addition of employment or an increase of actual productivity. The desirability of the improvement in production methods that gives rise to the opportunity is not in doubt. Bruton's argument rejoins that of the I.L.O.: given such an opportunity, in a context of serious unemployment, the more efficient choice is raise employment rather than the output per man of the original industrial labor force.

The more common course of events when investment and improved methods of production raise the marginal product of employed labor is that wages in the manufacturing sector increase correspondingly. The increase in wages then offsets the effect of rising marginal products, reducing the incentive to hire more workers. Actual productivity of the employed workers will then rise more rapidly, because additional employment has been blocked. But it is not that the improvement of productivity caused the lack of growth of employment. It is rather that the rise of wages took away the incentive to add workers and caused the new potential to be dedicated to productivity gains for those originally employed. In Bruton's formulation, it is a race between the rate of growth of marginal product, which favors more employment, and the rate of growth

of industrial wages.

Bruton's statistical tests are handicapped by the fact that it is impossible to measure the potential rise in productivity which creates the incentive to employ more workers. Tests have to be made on the basis of observed output and observed employment. His statistical regressions (RM-44 and RM-45), and those of John Eriksson for Latin American countries (RM-36), are consistent in showing negative relationships between the rate of growth of wages in a given industry and the ratio of its employment growth to output growth. They leave little doubt that relatively rising wages in a particular field, or rising wages in manufacturing relative to wages outside of manufacturing, react adversely on employment opportunities.

A successful development strategy will lead to rising incomes for workers, but not those of one group alone at everyone else's expense. If the stock of capital and the techniques of production used are eventually adjusted to the size of the labor force, so that there is no persistent structural unemployment, then rising wages will play an important positive role in encouraging employers to economize on scarce labor. If the stock of capital and the techniques in actual use leave persistent structural unemployment, rising wages for that part of the labor force which does have employment will similarly encourage employers to economize on workers. Rising wages for the employed workers then come at the cost of slower growth in real income per capita and lower employment opportunities for

those left out.

The Williams studies do not examine the second part of the quoted I.L.O. position, the argument that policies should be directed to raising employment even when this does not improve efficiency. Actual policies are usually so far over on the other side, restricting employment even when increases would raise efficiency, that it may be considered pointless to be concerned about going beyond the optimum for income growth. But that is a judgment which must be up to each country to make on its own. Development does not imply a single goal of maximum output; it certainly includes, or should include, distribution of rising income through wider employment opportunities. If a particular country wants to favor employment even at the expense of a slower growth of output, the method would be to make labor less expensive relative to capital and foreign exchange, and at the same time to continue to press for improvements in methods of production to raise the marginal product of employed labor. Gains in potential productivity still provide the main source of growth. Subsidies for the use of labor would speed its use, by adding to the incentives created through increased marginal products for the labor employed at any given point.

B. Wage structures, capital costs, and capital utilization

The degree to which new investment will raise employment and output can vary greatly in response to differences in wage

and price structures. Gene Tidrick (RM-40 and RM-47), John Todd (RM-41), and Gordon Winston (1971 and RM-42), have all shown, in studies concerned with different countries and diverse channels of influence, how distortions in wages, or unduly low costs of capital equipment, can make the employment problem worse than it would otherwise have been.

Tidrick was concerned particularly with the coexistence of a high-wage, high-productivity activity (bauxite mining in Jamaica), with low-wage activities providing the bulk of employment. In his model, the high-wage activity acts as a magnet for workers who might have been able to obtain employment in other fields but prefer to line up for possible jobs in the high-wage field instead. Workers are envisaged as setting in effect a reservation wage based on something like a rational calculation: lifetime earnings could be higher through a combination of a period of waiting plus eventual high-wage jobs than they would have been with steady employment at lower wages. This version makes part of the unemployment voluntary, with respect to the low-wage occupations. At the same time, it is involuntary with respect to the better paying fields. The analysis suggests that a lower differential between sectors would cut down the length of time anyone would remain unemployed in the hope of a job in the high-wage field. His results provide both corroboration and elaboration of Michael Todaro's analysis of employment and migration in Africa (1969).

John Todd's study of employment and output in relation

to the size of firms in Colombian manufacturing brings out a complex question of wage and price policy. In general, the largest firms in each industrial sector (those with over 200 employees), pay higher wages, get capital more cheaply, and use more capital intensive methods than the smaller and medium sized firms. If their wage rates were held down to those paid by smaller firms, while they continued to have favored access to capital, this would have two contradictory effects on employment: (1) it would raise their own labor-to-capital ratios, but (2) it would improve their profitability relative to other firms and thus increase their relative weight within manufacturing. To reduce their wage rates without correcting distortions on the side of capital costs could thus have a perverse effect on employment. If not all artificial prices can be changed, it can be dangerous to change just one of them.

Winston concentrates on the paradox that capital, the supposedly scarce factor in most developing countries, is very much underutilized in nearly all of those countries for which evidence is available. Of the many possible explanations that he examines, the one that seems to have particularly strategic importance for both employment and efficiency is that producers plan investments on a single-shift basis partly in response to subsidized costs of capital equipment. The subsidies arise both from tax advantages and from permission to import equipment with low or no duties in countries with overvalued currencies. This effect is considerably heightened by over-invoicing of equipment

imports, which gives the importer a chance to acquire foreign currency cheaply when he buys imported equipment (RM-38). The structure of incentives encourages more investment in capital equipment, even while the equipment already available is used at only a fraction of its potential. As Little, Scitovsky, and Scott put it, the incentives given to business to encourage investment must be excessive, if companies can afford to, and want to, buy more of it even though they are scarcely using what they already possess (1970, pp. 65-66).

Winston has generalized the factors bearing on demand for labor and for capital equipment in terms of four channels or dimensions of factor substitution (RM-46). Changes in the ratios of labor cost to capital cost can lead to changes in the demand for labor because of substitution among products, because of alternatives arising for new production methods when new investment is being planned, because of revisions of methods in response to changes in relative costs, or because of changes in the rate at which physical capital is actually used. As he points out, the literature on possibilities of substitution has been focused on only one of the four channels, the ability to change techniques for specific products when the capital stock is given. Even if no substitution were possible in that sense the other three channels would ensure that rising relative costs of capital would be favorable for employment.

All of these studies support the conclusion that a useful way to attack unemployment would be to raise the cost

of capital and reduce the cost of industrial labor. This is not an argument for a shift of income from labor to capital; what these studies recommend is a higher cost of capital, not higher profits. The cost of capital is a function of both original equipment prices and the rate of interest, usually expressed in annual terms as the sum of depreciation on the initial cost of equipment plus interest charges on the same amount. To raise interest rates would imply a shift of income to lenders. But the cost of the equipment itself could be raised directly without this implication for the distribution of income. In particular, most developing countries allow companies to import equipment with tariff rates that are below the average for all other import categories (Balassa, 1971). If firms were required to pay tariffs on imports of equipment equal to those paid on other imports, they would both shift toward domestic sources of supply and favor production techniques which use higher ratios of labor to equipment.

With respect to wages, the problem is centered on the difference between high-wage sectors, usually manufacturing but sometimes also a favored mining activity, and the rest of the economy. The argument is not that the income of the labor force is too high. It is that wages in the favored sectors are too high relative to labor incomes outside those sectors. If industrial wages were restrained, so that the demand for labor could be directed more toward increasing employment, then the poorest people in the economy -- the labor force outside of the

favored sectors -- would be the ones who would gain most from the improvement of efficiency through correction of relative prices.

C. Trade policy

Import substitution strategies have frequently led to neglect of opportunities for export expansion. Yet export opportunities can be extremely important to provide channels for greater real income growth than are attainable in some high-cost import substitutes, to ease the dependence on foreign exchange for imported inputs often associated with building up new industries, and to broaden the employment effects of the development process. Some of the Williams studies have looked at certain aspects of the export side of trade policy.

Bruton has outlined a convenient framework for analyzing a desirable sequence of either new exports or new import substitutes (RM-32; see also Sheahan and Bruton, RM-28). If a country is faced with declining prices for its traditional primary exports, this adverse trend will slow the growth of real income otherwise attainable, and make establishment of new activities more desirable. In the new activities, however, domestic factors will have lower productivity than in the already established sectors, factor owners will be reluctant to accept money payments lower than they formerly enjoyed, and hence at the prevailing exchange rate domestic money costs will be higher than for

traditional exports. There are three main policy approaches: (a) devaluation, which will make some new exports competitive in world markets and some new import substitutes cheaper than imports; (b) reduction of money payments to domestic factors, or more realistically holding down increases relative to domestic prices; (c) increased productivity in the new activities over time, which will enable some new import substitutes to get along with less protection than they need initially, and some new activities producing initially for domestic markets to break into export markets. This paper also offered further empirical evidence, supplementing earlier Williams studies (Sheahan, RM-11; Bruton, RM-22), that developing countries' manufactured exports typically do respond to reductions in their prices relative to alternative sources of supply. Thus the implication is that the sequence of new activities that maximizes the feasible growth of real income is likely to include new exports as well as new import substitutes.

Moreover, exports can be expected to be especially favorable to expansion of employment. The general presumption of the theory of international trade is that a country in which labor is relatively abundant and inexpensive should find its comparative advantages in labor-intensive lines of production. This should mean that the goods which can be exported -- both non-traditional agricultural exports and new manufactured exports -- will be those that offer more employment in relation to the scarce factors used than is true of the economy as a whole. If

a given flow of investment is directed to industries which are able to export, it will offer more employment opportunities than would be provided by the same investment concentrated entirely on home industries. Domestic demand for less labor-intensive goods could in principle be met instead by imports of those goods which do not offer as great employment opportunities, paid for by exports of those goods which provide more employment.

This happy picture of increases in employment made possible by trade relies on the presumption that, where labor is abundant, it will be relatively inexpensive. This is usually the case for labor outside the industrial sector, but the competitive advantage of low wages is often much less for labor employed in industry. Consideration of the possibilities of gain through increased trade reinforces the arguments in favor of keeping industrial wages in line with alternative earnings in the economy, rather than allowing them to rise in splendid isolation from the rest of the labor force. The possibility of exporting means that "The elasticity of substitution drastically understates the impact wage increases will have on employment growth in some of the most labor-intensive industries" (Tidrick, RM-40, p. 56).

It is certainly conceivable that subsidized costs of industrial equipment, combined with a wage gap including high rates for industry, could result in either a near-complete block on industrial exports or a pattern that is not favorable for employment. One of the Williams studies applies input-output

analysis of the factor requirements of industrial exports and imports for Mexico, to see if in fact exports provide more employment than replacement of imports (Sheahan, RM-43). The data indicate that industrial exports in Mexico's case use almost exactly as much capital and skilled labor as would be required for domestic replacement of industrial imports, but that these industrial exports have lower direct and indirect requirements of imported supplies, and greater requirements of unskilled labor. A given flow of investment into export industries, rather than import replacement, even in this relatively advanced country, thus does provide more employment opportunities for unskilled labor, as well as a net gain in foreign exchange. But it is a near thing. More intensive subsidies for capital equipment, and higher wages for unskilled labor in industry, could tip private calculations adversely, so that the social gains from greater employment through industrial exports could be lost.

III. THE DISTRIBUTION OF INCOME

Most of the Williams studies are concerned with questions of efficiency in resource use, rather than the domestic distribution of income. Greater efficiency may in some circumstances favor policies that make the distribution of income more unequal than it would otherwise have been. But those studies which bear directly on relationships between import substitution and

the distribution of income, particularly the papers by Stephen Lewis, make clear that protection for substitution can make the distribution of income worse by the same mechanisms that it weakens efficiency. Corrective policies should then be able to improve efficiency and distribution at the same time.

Stephen Lewis' studies of industrialization policies in Pakistan create a richly detailed picture of how protection acts to shift incomes from the poor to the rich (1970; RM-30, RM-34, RM-37). He established a series of measures of the consequences of protection and overvaluation for the terms of trade between agriculture and industry, showing a prolonged transfer from agriculture to industry. This did not mean a transfer from rich landowners to poor workers, but from generally poor farmers who make up the bulk of the population to a small number of businessmen and to an industrial labor force equal to perhaps 5 percent of the total working population. By his calculations, profits based on protection and overvaluation accounted for two-thirds to three-fourths of gross industrial earnings. Those who lost did include large farmers in West Pakistan, but also the poorest people in an extremely poor country: the small farmers who make up nearly all the population of East Pakistan, now Bangladesh.

The process by which this perverse transfer took place consisted of essentially the same techniques used in all countries attempting to promote import substitution, though these techniques were pushed to an extreme degree in Pakistan's case.

Protection was applied to block out competing imports of industrial products and allow their prices to rise far above external alternatives. This directly reduced the purchasing power of the agricultural sector and helped maintain an overvalued exchange rate by the restriction on imports. The overvaluation in turn meant that the agricultural sector, which provided the largest share of foreign exchange earnings, received less domestic currency per dollar's worth of exports than they would have in a less distorted economy.

Within manufacturing, the larger firms proved to be the main beneficiaries of restrictions. They were able to get preferred access to imported equipment valued below its opportunity cost to the society, while smaller producers were forced to do without. Smaller firms operated with lower capital inputs relative to output, though not necessarily with optimum factor combinations. A less protective system would have meant reduced use of capital by larger firms, and probably increased use by smaller producers. This would act both to reduce the concentration of income and to permit greater output per unit of capital for the economy as a whole.

The pattern for manufacturing in Pakistan is closely similar to the results established by John Todd for Colombia (RM-41). Todd worked out measures for the social efficiency of capital under varying adjustments of prices to account for probable distortions between market prices and opportunity costs. His data show that maximum rates of social return on

capital are associated with size categories of firms below 200 employees. "An average unit of capital in the small and medium size firms is associated with both more employment and more output than a unit of capital in the larger firms" (RM-41, p. 51).

Import restriction to promote substitution need not in principle discriminate against small producers in favor of large firms, but this certainly seems to be their general tendency. Insofar as the large firms manage to handle their relationships with the administrative system better than small firms do, this has the consistent result of making both output and employment lower than they would be for given rates of investment, and of directing profits to larger firms rather than small and medium sized businesses.

In general, industrialization based on import substitution involves a shift of real income from primary producers to industrialists and their workers. In a country in which agricultural production is dominated by large landholders selling to export markets, the shift toward import substitution could mean a change away from prior concentration of income based on landholding. In a country in which most primary production is carried out by small farmers, substitution policies mean from the start a new bias toward inequality. Whichever the starting point, long-continued policies of protection for substitution are bound to help most the people who are protected, the industrialists. A country which allows its economic policies to be

dominated by a coalition of industrialists and their workers, jointly sharing in the fruits of protection, may succeed in generating high rates of investment and industrial growth. It may at the same time simply leave out of the development process the poor in agriculture and services.

Protection for import substitution in the industrial sector is in effect a tax on everyone outside that sector. It takes real income away from those groups with the lowest incomes, those who are outside the favored sector and must pay higher prices for industrial products. The tax has mixed effects, some of which may be helpful and some clearly undesirable. It may simply offset the higher real costs of inefficiency. It may permit higher wages for those with jobs in industry, at the expense of buyers. It may raise profits, and thus favor investment at the same time as it accentuates inequality. But in some countries the investment is so ill-directed that it fails to create significant gains in real income, when the product is measured at the external prices at which it could alternatively be purchased (Lewis, RM-34 and forthcoming; Little, Scitovsky, and Scott, 1970). But the owners and workers in the industrial sector capture higher incomes from the higher prices made possible by protection, just as if they had created higher real income for the society. This may leave the rest of the population with no gain at all for very long periods.

Such an inequitable process would be less likely to be accepted for prolonged periods if the people left out were able

to realize what was going on and exert pressure for corrective action. But governments obsessed with industrialization and little concerned with current equity may hold down taxation of the favored sector and then be forced to hold down the extension of education and diffusion of opportunity which could bring more people into the decision-making process. Foreign advisers concerned with efficiency above all else may push choices the same way (Keesing, 1972). Perhaps worst of all, pressure from the people left out may be viewed as a threat to growth warranting authoritarian methods to suppress opposition (Cardoso and Faletto, 1969, pp. 151-53).

If a government does its best to broaden the decision-making process, the people left out of the initial stages of industrialization might come to constitute a potent force. Programs of rural development could shift the strategy back toward expansion of production and incomes by small-scale agricultural cultivators. Programs for extending education could bring much desired benefits of development to larger numbers of people. Programs for export expansion could draw in both agricultural producers and labor-intensive manufacturing. Programs for import substitution, if designed to offer profits based on performance rather than protection, and to restrain industrial wages that limit industrial jobs, could lead to an industrialization pattern in which the demand for labor would expand more rapidly relative to the rate of investment and the gains of development would be more widely distributed. That sounds as

if it would mean lower profits and lower rates of investment. But that need not be the case at all. Development is not maximized by a mechanical transfer of income to the industrial sector. It is much more likely to be favored by temporary subsidies or protection to initiate promising new activities, and then gradual application of competitive pressures to force producers to continue advancing. Profits would then correspond more closely to the creation of real gains for the society; they would be a force for selection and action rather than a privilege based on protection and exclusion. That kind of import substitution and diversification might well be more consistent with a democratic society able to bring all of its people into the process of development.

REFERENCES

(RM numbers cited refer to Williams College Research Memoranda)

- Werner Baer, "Import Substitution Industrialization in Latin America: Experiences and Interpretations," Latin American Research Review, Spring 1972, pp. 95-122.
- Werner Baer and Michel E.A. Herve, "Employment and Industrialization in Developing Countries," Quarterly Journal of Economics, 1966, pp. 98-107.
- Bela Balassa, editor, The Structure of Protection in Developing Countries, Baltimore: Johns Hopkins, 1971.
- Henry J. Bruton, "Import Substitution and Productivity Growth," RM-13 and Journal of Development Studies, April 1968.
- _____, "The Import Substitution Strategy of Economic Development," RM-27 and Pakistan Development Review, Summer 1970, pp. 123-46.
- _____, "Investment Criteria for Import Substitution," note to RM-28, October 1969.
- _____, "Latin American Exports and Import Substitution," RM-32, November 1969.
- _____, "Employment, Productivity, and Import Substitution," RM-44, March 1972.

_____. "Elasticity of Substitution in Developing Countries,"
RM-45, April 1972.

Fernando Enrique Cardoso y Enzo Faletto, Dependencia y desarrollo en America Latina, Mexico City: Siglo XXI, Second edition, 1969.

Hollis Chenery, "Comparative Advantage and Development Policy,"
American Economic Review, March 1961, pp. 18-51.

_____. "Patterns of Industrial Growth," American Economic Review, September 1960, pp. 624-54.

Hollis Chenery and Lance Taylor, "Development Patterns: Among Countries and Over Time," Review of Economics and Statistics, November 1968, pp. 391-416.

John R. Eriksson, "Wage Change and Employment Growth in Latin American Industry," RM-36, June 1970.

David Felix, "The Dilemma of Import Substitution -- Argentina," in Gustav Papenek, editor, Development Policy: Theory and Practice, Cambridge: Harvard, 1968.

Charles R. Frank, Jr., "Urban Unemployment and Economic Growth in Africa," Oxford Economic Papers, July 1968, pp. 250-74.

Albert Hirschman, "The Political Economy of Import Substitution," Quarterly Journal of Economics, February 1968, pp. 1-32.

International Labour Office (Dudley Seers, Chief of Mission),
Towards Full Employment, Geneva: I.L.O., 1970.

Donald E. Keesing, "Causes and Implications of Growing
Inequality of Income in Developing Countries," Stanford
Research Center in Economic Growth, memo 127, revised
May 1972.

W. Arthur Lewis, The Theory of Economic Growth, Homewood: Irwin,
1955.

Stephen R. Lewis, Jr., "Recent Movements in Agriculture's Terms
of Trade in Pakistan," RM-30 and Pakistan Development
Review, Autumn 1970.

_____, Pakistan: Industrialization and Trade Policy, London:
Oxford, 1970.

_____, "Domestic Savings and Foreign Assistance When Foreign
Exchange is Undervalued," RM-34, November 1969.

_____, "Notes on Industrialization and Income Distribution in
Pakistan," RM-37, September 1970.

_____, "Agricultural Taxation and Inter-Sectoral Resource
Transfers," Food Research Institute Studies, Stanford
University, forthcoming.

Ian Little, Tibor Scitovsky, and Maurice Scott, Industry and
Trade in Some Developing Countries, London: Oxford for
OECD, 1970.

Santiago Macario, "Protectionism and Industrialization in Latin America," Economic Bulletin for Latin America, March 1964, pp. 61-102.

Joaquin Muns, Industrializacion y crecimiento de los paises en desarrollo, Barcelona: Ariel, 1972.

Richard R. Nelson, T. Paul Schultze, and Robert Slighton, Structural Change in a Developing Economic, Princeton University Press, 1971.

Ragnar Nurkse, Problems of Capital Formation in Underdeveloped Countries, New York: Oxford, 1955.

Raul Prebisch, The Economic Development of Latin America and its Principal Problems, Lake Success, New York: UN, 1950.

_____, "Commercial Policy in the Underdeveloped Countries," American Economic Review, May 1959, pp. 251-73.

John Sheahan, "Import Substitution and the Terms of Trade," RM-28, October 1969.

_____, "Criteria for Investment Allocation in Colombia," RM-33, November 1969.

_____, "Trade and Employment: Industrial Exports Compared to Import Substitution in Mexico," RM-43, December 1971.

John E. Todd, "Size of Firm and Efficiency in Colombian Manufacturing," RM-41, October 1971.

Michael P. Todaro, "A Model of Labor Migration and Urban Unemployment in Less Developed Countries," American Economic Review, March 1969, pp. 138-48.

Gordon C. Winston, "Capital Utilization in Economic Development," Economic Journal, March 1971, pp. 36-60.

_____, "Corruption and Industrial Growth Under Artificial Exchange Rates," RM-38, September 1970.

_____, "Capital Utilization: Physiological Costs and Preferences for Shift Work," RM-42, October 1971 .

_____, "On the Inevitability of Factor Substitution," RM-46, April 1972.