

IMPORT SUBSTITUTION—A SURVEY OF POLICY ISSUES

JALEEL AHMAD

I. INTRODUCTION

IMPORT substitution policies for deliberate and accelerated industrialization in less developed countries were bound to come into conflict with the neo-classical view of efficiency through free trade. Proliferation of import substitution programs in much of the Third World raises the fundamental question as to whether existing patterns of protection are consistent with their strategy of economic development. In other words, are import substitution policies the best means of achieving the desired industrialization? What are the opportunity costs of alternatives foregone or only dimly perceived? Are the static losses in consumption and efficiency resulting from protection adequately compensated by gains in dynamic efficiency and productivity of resources? Does import substitution really shortchange the gains from trade? The analysis of these and related questions forms the subject-matter of this survey.¹

The next section deals with problems encountered in the growth and continuing viability of import substitution, while its relationship to foreign exchange constraint is examined in Section III. Section IV considers the relationship of import substitution to trade theory in terms of effective protection, domestic resource costs, tariffs versus subsidies, and the conflict with exports. Implications of import substitution for labor employment, productivity, technological progress, and income distribution are the subject of Section V. Section VI contains some concluding observations.

II. GROWTH AND VIABILITY OF IMPORT SUBSTITUTION

In general, import substitution occurs when domestic production of identical goods replaces foreign sources of supply.² Initial adoption of such policies, particularly in Latin America, was a response to shortages of manufactured goods during and immediately after World War II, and a near collapse of export markets for raw materials. Nevertheless, from the start import substitution policies have

¹ Some of the issues touched upon in this survey are discussed more fully in [5]. A satisfactory survey of measurement problems is contained in [63]. Further discussion is available in [19] [21] [75] [51] [1] [39] [26] [81].

² Most known methods attempt to measure import substitution as a source of industrial growth within the framework of a general partition of non-proportional growth of domestic production into its "exogenous" causes. Statistically, it is the "difference between the growth in output with no change in the import ratio and the actual growth" [19, p. 640].

been motivated by the desire to "diversify" the structure of domestic production, and reduce dependence on foreign sources of demand and supply [37].³ It was during the 1950s that the conceptualization of the on-going processes of import substitution elevated it into a conscious growth strategy. The adoption of economic planning in many less developed countries since then has made import substitution the ultimate linchpin of industrial development.

The policy instruments supporting import substitution regimes are an assorted mix of tariffs, quota restrictions, exchange controls, over-valued exchange rates, and administrative procedures—their mix varying from country to country [85] [8]. In almost all cases, tariffs and other restrictions were introduced to deal with a specific problem as it arose—a circumstance which has resulted in a complicated web of policies, often contradictory with each other and with the overall development strategy [36] [54]. Tariffs and QRs are in general structured in a way which discourages imports of consumer goods, and favors those of capital and intermediate goods.

Given the current structure of international trade, it was inevitable that any attempt at industrialization in less developed countries will result in import substitution. Practical considerations stemming from known demand, local resources and technology limited the role of import substitution initially to consumer goods. In general, this easy phase of import substitution produced rapid and efficient industrialization. All empirical estimates attribute significant proportions of domestic growth to import substitution in consumer goods and allied industries.⁴ In all cases, import substitution was by far the larger contributor to growth than exports. Moreover, as shown by Chenery's regressions [19], the phenomena was not simply due to non-unitary demand elasticities for manufactured products, but was firmly rooted in changes in factor costs and comparative advantage.

III. IMPORT SUBSTITUTION AND FOREIGN EXCHANGE CONSTRAINT

Early efforts toward import substitution were prompted by foreign exchange constraints, even though explicit references to them are scarce. Import substitution was seen as a feasible strategy for eliminating import gap through domestic production of import substitutes in sufficient volume to allow a projected growth rate without excess demand for foreign exchange. Foreign exchange thus "saved" could be directed to imports of "essential" raw materials and capital goods.

In most cases, however, domestic production of consumer goods required imports of raw materials and capital goods, thereby increasing the total import bill. In addition, protected consumer goods industries required domestically-produced intermediate products like steel, where an increase in output required

³ In all cases, import substitution was viewed as the catalytic agent in triggering economy-wide changes, rather than merely as a source of industrial goods. See [19] [21] [51] [1] [2] [39] [67] [79].

⁴ The tendency of import ratios to fall as development proceeds is also confirmed by time series data for a large number of countries [56] [80].

further imports [68] [28]. Thus, in the aggregate there was little saving of foreign exchange, except in rare cases where capacity formation was undertaken from purely domestic sources. The smallest saving of foreign exchange resulted from the establishment of foreign-owned final processing or assembly operations using imported inputs [78]. In extreme cases, import substitution may have perpetuated the dependence of the economy on continually rising volumes of imports—a circumstance it was supposed to avoid [31]. Time minimization strategies of the von Neumann-Morgenstern type suggest that initial import substitution should have been undertaken in intermediate and capital goods sectors rather than in consumer goods [79]. But basic technological constraints and a limited supply of strategic resources effectively rule out this alternative.

The growth of import substitution has been paralleled by doubts over its continuing viability to support economic growth, paradoxically in countries which have already attained a high degree of industrialization [29] [7] [6]. Further growth requires extension of the process into more difficult areas of intermediate and capital goods. Import substitution in consumer goods alone—in the absence of significant export growth—could not continue to lower the economy's average import coefficient. A few countries, notably Brazil and India, were able to grow faster than the capacity to import by haltingly extending import substitution to intermediate and capital goods, but these are largely exceptions. Most countries encounter serious difficulties in getting past the consumer goods stage, while the smaller ones get "stuck" there [55] [24].

Felix also draws attention to a persistent import bias in the changes in final demand which tends to diminish the effectiveness of import substitution.⁵ He estimates in the case of Argentina that, despite considerable import substitution during the intervening years, a given quantity of final demand with 1960 composition required 8.5 per cent more intermediate imports using the 1953 input-output coefficients (and 16 per cent more using the 1960 coefficients) than did the 1953 final demand mix [29, p. 71, Table 3.1]. This is clearly a reflection of the unbalanced expansion of import substitution in consumer goods, resulting in the production structure of the economy being increasingly dependent on imports. In this connection, Diaz-Alejandro has argued that the continued frustration of foreign exchange saving of the kind noted by Felix requires some very drastic assumptions about rising capital-output ratios and import-intensity of production processes, for which there is little justification [27]. Diaz-Alejandro's analysis is undoubtedly directed to a long-run viability of import substitution, where savings in imports from completed import-substituting products offset the rise in capital-intensity of future investments [32].

The unbalanced growth of import-substituting consumer goods industries may also have diverted resources away from investment. Power has noted that the

⁵ This bias may be in accord with Engel's Law where rising incomes push demand toward products with high income elasticities, which normally tend to have higher import-intensities than products with slow-growing demand. Import-biased shifts may also occur independently of income due to "international demonstration effect," leading to borrowed consumption tastes from advanced countries.

bias toward domestic production of consumer goods is likely to be reflected in a rise in their consumption [66]. Now, if imports of consumer goods fail to fall, absolute saving will remain constant, but the proportion of national income devoted to saving will gradually fall, and with it the rates of investment. Power also notes that the extension of import substitution to investment goods industries is frequently opposed by owners of import-intensive consumer goods industries, because of a powerful vested interest in preempting available foreign exchange.

Once established, an import substitution regime acquires an internal logic of its own. On the positive side, the single most powerful element of this logic stems from the inter-industry repercussions of a set of import-substituting activities that vibrate to other sectors. In several cases, initial import substitution in a few sectors prompted further import substitution and fostered industrialization on a broad front. In such cases, future industrial growth can proceed through growth of domestic demand and of exports, and does not have to rely on continually lowering import ratios, as pessimistically forecast by Felix [29].

The process of permeation to other sectors can, however, be shortchanged due to the failure of appropriate linkages to materialize. Hirschman contends that the backward and forward linkages from initial import substitution in Latin America have been rather weak [37]. The lack of trigger mechanism has been particularly noticeable in assembly or "finishing touch" type of import substitution where imports of components for domestic assembly are substituted for imports of finished goods. In such cases, the industrial sector is particularly prone to the phenomenon of negative value-added at world prices, as indeed shown by limited evidence from Pakistan [52].

On the negative side, these same pressures may lead to building of capacity haphazardly, frequently without regard to social opportunity cost of resources, as well as create domestic monopoly positions. Bhagwati and Krueger are of the view that such sheltered monopoly positions in import substituting industries are the prime cause of low productivity [14]. Proliferation of firms may also have been inimical to the exploitation of potential economies of scale. The classical example of this proliferation and a consequent disregard of economies of scale is documented by Johnson for the automobile industry in Chile [42]. Further, a comparison of Argentine to U.S. prices presented by Felix suggests a "heedless fragmentation of firms within industries where demand would be inadequate—at most barely adequate—to support one or two large firms at minimum efficient scale" [29, p. 56]. On the other hand, Reppy in an extensive empirical investigation of the Colombian experience concludes that "for a wide range of manufactured products diseconomies of scale are not significant in the range of output represented by the Colombian markets" [69, p. 119].

The major defect of import substitution policies, according to Bhagwati and Krueger, has been their indiscriminate nature in influencing the growth of firms [14]. If the regimes could somehow differentially encourage the low cost industries and discourage the high cost ones, the excess domestic resource cost of the total QR regimes could be significantly lower. Unfortunately, however, there is little discussion of practical ways to curb proliferation while encouraging the growth

of efficient firms. Tendency toward proliferation is frequently exaggerated: most often the difficulty seems to have been in persuading potential entrepreneurs to take advantage of obvious profit opportunities in import substitution regimes.

The frustration of its original objective of "saving" foreign exchange should not obscure the fact that import substitution did lead to a certain degree of industrialization and did generate a chain reaction, however weak, which extended to a variety of sectors. The mere fact that many authors refer to proliferation suggests that the process did filter through, perhaps not in the most desired directions. This raises a very basic question: should import substitution be confined to a few sporadic sectors, and thus forego the important "spread" effects, or should it have been "balanced" to include ancillary and allied industries and thus run afoul of the doctrine of specialization.

There seems little doubt that gradual extension of import substitution process to intermediate and capital goods remains feasible, even though less efficient on *static* trade-theoretic criteria.⁶ As long as some domestic value-added is created within each successive import-substituting activity, there is no inherent reason why the import coefficient cannot continue to be lowered. One prominent reason for the inability of import substitution to reach more complex forms of manufactures is the current structure of protection itself. The very low or zero tariffs on intermediate and capital goods imports, undoubtedly with a view to encourage capital formation, hinder this transition. It is not unlikely that, at least in a few important cases, raising tariffs on capital goods may encourage their domestic production.

The foreign exchange gap could also have been closed, at least in theory, by generating additional exports. But for the less developed countries, as a totality, export expansion based on primary commodities does not appear to be a viable immediate alternative to import substitution, as advocated by the so-called "outward looking" strategy. To suggest primary exports as a means of dealing with foreign exchange gap is to misunderstand the notion of the gap itself.⁷ The gap would not have arisen if exports were growing in sufficient volumes and if their prices were not so volatile. To suggest this alternative is also to misunderstand the roots of imports substitution strategies. They were primarily a response to the instability and structural disequilibrium associated with extreme export concentration which allowed very few degrees of freedom in increasing the rate of growth. Less than unitary elasticities of demand for primary exports meant that growth rates could actually be reduced even with

⁶ In this connection, it may be pointed out that initial low productivities may simply be the cost of "learning." Low productivities, in any event, are neither unique to import-substituting industries nor are caused by them. They are a pervasive fact of life in all less developed countries: witness the low yield per acre and per man in most of Third World agriculture.

⁷ The claim that the "gap" is merely a manifestation of an overvalued exchange rate only states the obvious fact that relative price adjustments can close the gap. What is often not realized is that it cannot do so in a way that leaves the growth rate unchanged at the original gap level.

increased saving [30]. Undue concentration on primary exports inevitably led to the choice of import substitution for any conceivable development strategy. If so, primary exports cannot be expected at the same time to provide escape from the dilemma of import substitution. However, once the transition from primary exports through import substitution to exports of manufactures is successfully completed, the notion of foreign exchange gap itself would have disappeared.

IV. TRADE-THEORETIC CONSIDERATIONS

The lineage of contemporary import substitution to classical modes of protection is, at best, tenuous. Despite their seeming affinity to the infant industry argument, import substitution policies rest on fundamentally different premises. They are not confined to sheltering a few nascent industries on Mill-Bastable criteria [45] in an environment where otherwise there are no structural obstacles to transformation. Undoubtedly bolstered by the doctrine of "balanced growth," such policies extend protective measures to a whole range of industries on an "infant economy" rather than on an infant industry basis [64]. Conceptually, they would seem to be more in accord with the Manoilescu doctrine for protection based on differentials in factor prices and in sectoral productivities [58] [35].

The infant industry argument has now been restated as a problem in domestic distortions, where either an externality in production or a factor market imperfection may cause a potential domestic activity to remain undeveloped [41] [12]. However, in all instances where domestic distortions are autonomous and endogenous the optimal policy is shown to be the one which deals directly with the source of distortion through a tax or a subsidy rather than indirectly through trade intervention [11]. In this same theoretical vein, Little, Scitovsky, and Scott have argued for "promotion" rather than protection of industries in less developed countries [54].⁸ The superiority of tax-cum-subsidy policies rests on the purported neutrality of fiscal systems to "promote" industry in a way that does not reduce economic efficiency by widening the cleavage between foreign and domestic rates of transformation.

An exclusive reliance on tax-cum-subsidy regimes for industrial development in less developed countries may, however, be questioned on a number of grounds. Most discussions of subsidies seem to imply that they are costless and free of distortions. Yet, it is obvious that all subsidies and taxes distort incentives and may adversely affect allocative efficiency.⁹ Moreover, the design of suitable and

⁸ The recommended promotional policies are: provision of infrastructure, development of capital markets, export subsidies, payroll subsidies, and the compensation of industry directly for any external benefits it provides [54, pp. 132-34].

⁹ As shown by Marglin [59], any departure from marginal cost pricing, implied by a tax-cum-subsidy regime, opens the door to misallocation of resources, just as tariffs and quotas do. Subsidies can be mismanaged in the same way as can the protection regimes. One need only point to the farm subsidy programs in industrial countries to underline the vulnerability of subsidies to misuse.

practical tax-cum-subsidy regimes is one of the hardest tasks in economic policy, and what emerges may be no less arbitrary than systems of protection. Finally, tariffs are an important source of revenue in many less developed countries, while subsidies are a charge on public revenues. In strictly practical terms, tariffs and subsidies do not pose either-or alternatives; they have to be combined in order to reduce possible distortions to a minimum. Subsidy regimes alone would seem to be relevant only after initial structural obstacles are overcome. Until that stage, a tariff may be a second-best optimum, but is still superior to no intervention at all.¹⁰

Recently, considerable analytical effort has gone into devising measures to evaluate the efficiency costs of protective regimes, and to the general resource pull exercised by the latter [74]. Two prominent concepts—effective rates of protection and domestic resource costs have played a key role in such efforts [25] [33] [8] [16] [48]. Empirical estimates by Balassa [8] and Guisinger [34] suggest an excessively high rate of “effective” protection to import substituting industries, and a consequent movement of resources away from agriculture and other primary sectors. Little, Scitovsky, and Scott conclude that “industry has been over-encouraged in relation to agriculture” [54, p. 1]. However, controversy has surrounded the question of sensitivity of effective rates of protection to the variability of the input coefficients—the so-called substitution problem. This controversy, along with many other conceptual and statistical problems, raises serious doubts about the validity and reliability of effective protection as indicator of the movement of resources [15].

Another use of effective protection has been in measuring the real contribution of an activity to national product by comparing the discrepancy between value-added at domestic and world prices, when there are tariffs on final goods and intermediate products. Soligo and Stern, for instance, estimate that in twenty-three out of forty-eight manufacturing industries in Pakistan, the value-added at world prices is negative [73]. King provides further examples of negative value-added in Mexican automobile industry [47]. However, King also points out that negative value-added does not necessarily mean that the country wastes resources or is worse off. Citing the example of Mexican motor assemblies, King underlines the generally favorable external economies generated as a result. There is also the question of the treatment of sunk costs. Guisinger estimates that the elimination of sunk costs from the “real” resource costs in Ethiopian industries would render all but two socially profitable [34].

The major value of domestic resource cost lies in its purported ability to rank, in terms of relative desirability, all activities that either save foreign exchange (import substitution) or earn foreign exchange (export promotion). An optimal allocation of resources would dictate that, at the margin, the equality between

¹⁰ For example, a payroll subsidy to encourage labor-intensive production in dual economies with a wage differential between “modern” and subsistence sectors is very likely to interfere with long-run growth of the economy, while a tariff may have no such effect. As shown by Findlay, “an optimum wage subsidy would...raise welfare in the short run at the expense of long-run growth” [30, p. 124].

the costs of earning and saving foreign exchange should be maintained. Now, it is predictable that variations in domestic resource costs among and within industries in less developed countries are fairly large. Bhagwati and Krueger conclude that, on balance, "the sample countries have erred on the side of allowing a higher marginal cost of saving than of earning foreign exchange" [14, p. 420]. They add, however, that not all import-substituting industries are inefficient; some appear to have very low costs, while others require a large multiple of domestic resources in order to save a given amount of foreign exchange.

While the domestic resource cost is a useful tool for judging the relative profitability of competing activities, like any cost-benefit criterion it must be used with caution.¹¹ It equates the desirability of domestic activities solely with their ability to save or earn foreign exchange. While it is true that an increased command over foreign exchange enhances a country's development options, domestic activities often have other purposes and consequences than their ability to earn or save foreign exchange. It is important to bear in mind the behavioral elements that underlie the developing countries' demand for foreign exchange [83]. The manner in which a deficit on balance of trade is eliminated has important structural implications for the domestic economy and is, therefore, not a matter of indifference to the country concerned.

One major criticism of import substitution regimes has been that they reduce or eliminate the gains from trade by favoring production for domestic use over exports, and by encouraging manufactures at the expense of agriculture and other primary production [54] [8] [18] [40]. The conflict between import substitution and exports is supposed to arise because import substitution regimes imply an exchange rate higher than the equilibrium. Therefore, a producer earns a lower domestic currency equivalent by exporting than by selling at home. Protective regimes further penalize exports through tariffs on their inputs. In addition, overvalued exchange rates resulting from protection discriminate against agriculture and other primary products in world markets. Against this view, Felix in citing evidence from Maizels [56] argues that "the macro evidence that import substituting industrialization substantially depressed the growth of agricultural output or primary exports is inconclusive" [29, p. 58].

The often misunderstood objective of import substitution policies is precisely to avoid the dependence on primary exports implied by export-led strategies.¹² A less developed country can attain a growth rate permanently higher than the

¹¹ The assertion that domestic resource costs and the effective rates of protection provide proper ranking in terms of comparative advantage is not valid. Findlay concludes that neither criterion succeeds in ranking industries according to comparative advantage, since both assume perfectly competitive pricing in product and factor markets—a condition most certainly absent in the less developed countries [30, p. 183].

¹² In extreme cases of dependence where the rate of growth of world demand of a country's primary export determines its internal growth, income in periphery is likely to decline asymptotically [70]. Similarly, Bardhan has demonstrated that if the growth rate of world demand of a country's primary export is smaller than the growth rate of its labor force—a likely circumstance for most of the less developed countries—the growth rate of domestic output will be lower than that of labor and per capita output would fall [9].

rate at which world demand for primary exportables is growing, if it can develop manufactured exports [30]. However, a country cannot export manufactures without building the capacity to produce them, and it cannot build capacity without import substitution.¹³ The ratio of imports to domestic production of manufactures in many less developed countries is so high that any attempt to create domestic capacity is bound to take the form of import substitution. This implies a sequence from primary specialization to import substitution to exports of manufactures.¹⁴ It does not suggest, however, that export expansion is in any sense less important. It merely underlines the more complex nature of relationship between the two in newly industrializing countries. There is some evidence that the rate of growth of import substitution in manufacturing sectors is positively correlated with the growth of exports [3]. In this supply-oriented view of the matter, import substitution and export expansion, far from being antagonistic, are perfectly compatible and symbiotic.¹⁵

The foregoing considerations also imply that there is bound to be a time lag of sufficiently long duration between the development of manufacturing capacity and their eventual exports. The lag may arise because domestic demand is often a necessary condition for exporting [53] [10] [38] [4]. It is naive to expect the less developed countries, many of which are still struggling with basic production problems, to emerge fully-grown exporters of manufactured products. For some time to come, their major outlets for manufactured goods are likely to be their own markets.¹⁶

There is no conclusive evidence that import substitution per se has adversely affected either exports or primary production.¹⁷ The reasons for the non-growth of latter sectors are none other than the ones imbedded in the general underdevelopment; import substitution is merely a "red herring." The "success stories" of Hong Kong, Korea, and Taiwan in basing growth on exports hide the fact that they never had production problems characteristic of a normal less developed country, by virtue of their being effectively a part of industrial countries with whom they trade. Further, the kind of inefficiencies implicit in low value-added

¹³ An econometric test of this proposition is contained in [3]. Time series and cross-sectional evidence from a large number of studies suggest that per capita domestic production of manufactures and their proportion in total exports are positively correlated [56] [78].

¹⁴ Findlay argues that this sequence is attained either by sufficiently large increases in productivity or alternatively by a rise in the propensity to save out of profits in the manufacturing sector [30].

¹⁵ The symbiosis arises in the following manner: while import substitution favorably affects the growth of exports through an "accelerator" type of effect, export expansion reinforces import substitution through economies of scale and growth of productivity resulting from enlargement of markets.

¹⁶ This conclusion, however, does not apply to a number of labor-intensive products where the less developed countries have a clear comparative advantage [49]. However, these products not only face formidable trade barriers in major industrial markets, but are also prime candidates for import substitution in other less developed countries.

¹⁷ On the contrary, the Brazilian experience suggests that significant manufactures' exports have arisen only from industries where large-scale import substitution is complete [81].

may be quite general and not unique to import-substituting industries. Mallon reports that the two largest net losers of foreign exchange in Pakistan—jute and cotton textiles—are actually major exporting industries [57].

V. LABOR EMPLOYMENT, PRODUCTIVITY, TECHNOLOGICAL PROGRESS, AND INCOME DISTRIBUTION

The growth of import substitution in the generally over-populated less developed countries is seen as contrary to the objective of increasing the employment of their abundant factor [62].¹⁸ Since the production of import substitutes is relatively more capital-intensive than would seem to be dictated by current factor endowments in these countries, import substitution is believed to be detrimental to creation of labor employment [37] [54] [82]. In many less developed countries, high rates of growth of industrial investment and output are accompanied by relatively slower absorption of labor. This has given rise to a controversy between the so-called "structural" and "market" critics of import substitution [82].¹⁹

The low ratios of employment growth to output growth, according to Bruton, may imply a rising growth in output per man [17]. If so, there would seem to be a conflict between raising output by increasing employment and by increasing productivity. This dichotomy disappears, however, when one considers the implications for future employment of "freezing" productivity which has a cumulative character, unlike employment. Also, output growth is rarely independent of productivity growth. Bruton draws attention to the fact that "virtually all indices show that output and productivity growth move very closely together, so that in general we expect that the greater is productivity growth, the greater is output growth" [18, p. 2]. Any attempt to dampen productivity growth in order to encourage employment growth is, therefore, much more likely to reduce output growth than to increase employment.

Bruton has argued for the selection of optimal import substitution activities on the basis of their projected rates of productivity growth [17]. Only those industries should be given protection for which an above-average productivity growth is likely to offset the initial cost disadvantages, given appropriate time preference and discount rate. This principle, though valuable in focusing attention on costs and productivities, somewhat narrowly circumscribes the range of potential import-substituting industries. Firstly, it ignores the dynamic interaction which requires a simultaneous selection of a set of activities whose optimality

¹⁸ The recent survey by Morawetz singles out import substitution as the chief culprit in exacerbating the employment problem in less developed countries [62].

¹⁹ The "structural" critics argue that labor absorption has been low because of limited factor substitution, the tendency of foreign firms to employ home-country techniques of production, capital-based nature of technological change, and the absence of indigenous technology. The "market" critics, on the other hand, point to the government-induced distortions in factor prices (e.g., artificial cheapening of capital) as the cause of low labor absorption. See [82] and [6] for further details.

is jointly determined [20], rather than by individual ranking, as implied by Bruton. Secondly, it violates what Sheahan has called the "basic conditions of effective search for diversification" [72, p. 10]. Sheahan offers an alternative approach which would provide protection initially to industries which have a current comparative disadvantage, provided they offer a combination of "learning" and direct income (increases in productivity) that compares favorably with expected costs. Sheahan's search hypothesis requires a continuous evaluation of the total protection system in order to locate and eliminate the "duds" that thrive on indefinite protection. The absence of a continuous evaluation of protection regimes undoubtedly shields many unproductive endeavors.

The question of employment involves numerous intricate questions relating to choice of technique and choice of output-mix.²⁰ Chenery and Raduchel maintain that "direct" factor substitution between labor and capital would be necessary to deal adequately with the employment problem [22]. Others, like Lary [49], suggest that many manufacturing industries possessing direct technological feasibility exist, and could form the basis of a vigorous trade between the developed and the less developed world. On the other hand, a number of authors argue that in industrial production there are only a limited number of technologically feasible processes, requiring inflexible factor proportions [65] [77] [23] [78]. They suggest that in general the elasticities of factor substitution are strikingly low.

Most conclusions about employment and import substitution rest on the assumption that all less developed countries are endowed with "unlimited" supplies of labor—an assumption fraught with serious conceptual and statistical pitfalls. A vastly more valid generalization would seem to be that there are a number of industrial *activities* (and not techniques) that are inherently labor-intensive, and could form the basis of less developed countries' specialization. But then one is talking about the choice of output and not about the choice of technique. The implication is that the less developed countries continue to specialize in the production of a limited range of activities which are typically labor-intensive.

The question of factor-intensity is, therefore, inextricably linked with the question of output-mix. It must be stressed, however, that factor endowments in a Heckscher-Ohlin sense merely impart a production bias in the direction of goods which intensively use a country's abundant factor, and do not necessarily mean that such goods will be produced and exported, unless demand conditions in home and foreign markets are specified [43]. Moreover, import-competing industries in less developed countries, though relatively capital-intensive relative to their own traditional primary and handicraft production, would be considered labor-intensive at factor prices prevailing in the developed countries. In other words, factor intensity reversal occur and, to that extent, invalidate the straightforward application of the abstract Heckscher-Ohlin model to trade between the developed and the less developed countries [61].

It would, therefore, seem that the choice of output-mix is probably of greater

²⁰ Many of these problems are discussed in [71].

strategic significance in determining the level of employment than the choice of technology. Given inflexible (or only partly flexible) factor proportions, a less developed country has a certain degree of freedom in adjusting its employment level through adjusting the output-mix of its final bill of goods. This "indirect" factor substitution through demand manipulation is a substitute for "direct" factor substitution [22] [60], and may be induced through changes in relative prices or in income distribution. In all likelihood, however, this indirect factor substitution for purposes of employment creation will force a less developed country into continued specialization in low-productivity primary production, and we are back at the original problem of non-diversification which prompted import substitution in the first place.

The basic rationale of import substitution is to maneuver a change in the economy's output composition away from the traditional one, with a view to deal with the problem of lack of diversification. However, this change in output composition almost invariably tends to raise the overall capital-labor ratio, not because labor-intensive techniques are being abandoned in favor of capital-intensive ones, but because new manufacturing activities tend to employ capital at a faster rate than labor. Besides, it is quite clear that labor-intensive production in the context of underdevelopment is an appropriate policy for the maximization of employment only in the immediate run. Sutcliffe remarks that "if the time horizon is anything longer than the instantaneous, then possibility arises that more capital-intensive, though not the most capital-intensive, techniques can make significant inroads in increasing employment" [78, p. 182].

A dynamic perspective on factor intensities and on the employment problem must reckon with the role of capital-intensive techniques in generating external economies. One such aspect concerns the initiation and diffusion of technical progress. In general, capital-intensive techniques are more likely to be associated with rapid technological progress than labor-intensive ones [84]. Kelly, Williamson, and Cheetham argue that the rate of capital accumulation responds positively to the increased intensity of technical change in the early phases of growth [44]. As a result, the economy-wide capital-labor ratio becomes higher and continues to rise as development takes place. Findlay, in a two-sector model of agriculture and manufactures, shows that technical progress in either sector always initially increases the rate of profits and the rate of capital accumulation [30]. But it is only when technical progress takes place in manufacturing that this rise can be permanently sustained.²¹ In practical terms, it is difficult to conceive of technical progress in less developed countries arising in agriculture and other primary sectors autonomously and independently of such progress in the manufacturing sectors. Freezing factor proportions in the direction of labor-intensity would not only freeze productivity but also technical progress.

There is little doubt that the growth of import substitution in the less developed

²¹ This leads Findlay to remark that "there is therefore some ground for the belief, widespread and persistent throughout the Third World, that manufacturing is in some sense more 'dynamic' than primary production for export" [30, p. 102].

countries has generated a reasonably high level of employment of *skilled* labor, though not necessarily of the unskilled. But, by definition, industrial activity creates opportunities for employment of skilled labor by creating both the demand and the supply of it. One of the more recognizable external economies of industrialization consists in raising the general skill of the labor force and gradually converting pools of unskilled labor into skilled labor force. It seems unusual, therefore, that a recent survey of unemployment problem in less developed countries has sought to judge the optimality of industrial programs on the basis of their contribution to employment of *unskilled* labor [62].

Many misconceptions about capital and labor intensity in less developed countries arise through the neoclassical practice of treating them as perfect substitutes for each other. In reality, capital in a less developed country should properly be considered a general resource which augments the productivity of labor, rather than as a substitute for it [46]. Further, even in the static version, comparative advantage can change over time as factor proportions are altered through accumulation and qualitative change. Economies specialized in labor-intensive primary production can and do move out of such specialization as manufactures begin to occupy an increasing share of growing output. Import substitution in industrial sectors plays a key role in this sequence.

It seems clear that import substitution policies start with a bias toward inequality. Owners of assets and workers in protected industrial enterprises capture higher incomes, just as Stolper-Samuelson theorem would predict. Like other societies, there are different groups in less developed countries jockeying to improve their economic position, as measured by their share in national income. While the production factors employed in import-substituting activities have undoubtedly improved their relative position, there is little evidence that this was done by making other groups absolutely worse off.²²

Against this view, Lewis has argued that protection for import substitutes and the resulting overvaluation of exchange rate has worsened the terms of trade of agriculture vis-à-vis the industrial sector, and has led to a prolonged transfer from the former to the latter. Further, within the manufacturing sector itself, protection has worked to the advantage of larger firms as opposed to the smaller ones [50]. This latter view, however, seems to be in sharp contrast with the consensus in the literature that import substitution policies have tended to favor the growth of small firms, and have thus whittled away potential economies of scale.

Inequalities in less developed countries predate import substitution policies. They are not directly a result of import substitution, but of repressive social structures [76]. It is a mistake to think that by abandoning import substitution,

²² It is instructive to note that measures to increase labor absorption may increase inequalities. Tyler estimates that a payroll subsidy to neutralize the effect of minimum wage legislation in Brazil in 1968 would have cost the Treasury approximately 280 million dollars—or about 1.7 per cent of the value of total manufacturing output [82]. Any subsidization of this magnitude through the existing regressive tax system is bound to aggravate distributional inequality.

and thus reverting to the older modes of production and specialization, less developed countries can attain a more equitable distribution of income. Curtailing import substitution, and with it a goodly part of economic growth, will simply freeze the existing economic and social structures, and income inequalities would persist if not actually worsen.

In a related sense, income concentration and the resulting inequality, particularly in Latin America, appears to be a significant constraint to the diffusion of import substitution process. The highly skewed income distribution isolates the majority of people from the market for industrial goods. Thus, even though there may be a broad range of manufactured goods demanded, the demand for any single good is small relative to minimum efficient scale of production. If incomes can be redistributed in a way which raises the demand for basic consumer goods, existing import substituting industries can expand their size and reduce average costs. The inter-industry repercussions of the latter will in all likelihood push import substitution into intermediate and capital goods sectors where economies of scale are in general more crucial.

VI. CONCLUSION

Sheahan has drawn attention to the conflict between the "classical vision of efficiency" through international specialization and the policies to promote import substitution [72]. The difficulty most clearly is that the classical vision of efficiency is totally static and provides no allocative guidance for dynamic efficiency. Such a guidance must necessarily be derived from normative judgments about the desirability of particular changes in the structure of production. Import substitution policies evidently have wider aims that transcend overcoming of foreign exchange gap which in itself is a symptom of deeper structural imbalances. They are motivated by long-run considerations bearing on an "efficient" pattern of trade (and hence of domestic production) from each country's national standpoint. They seek to radically alter the quantity and quality of factors of production, and thereby influence the stream of future output, the rate of technological progress, and productivity. These and other considerations involve numerous second-best problems, and raise serious doubts about the validity of abstract trade-theoretic and equilibrium growth models. Judgment about many issues connected with import substitution involves an understanding of the basic structural problems which prompt such efforts.²³

If the arguments for abandoning import substitution, as advanced in much of the literature, are to be taken seriously, one must visualize the growth prospects of less developed countries without import substitution. They would probably still have some industry, but it is difficult to visualize continuing growth in per capita incomes without a large and growing industrial sector. This is not only because of population growth, but also because the demand for industrial products

²³ The discussion of structural issues is conspicuous by its absence in the current literature on import substitution. However, some preliminary problems are discussed in [5].

would grow faster than the demand for primary products. Even if labor productivity grew without much industrial growth, demand for imports would be growing faster than the demand for exports, and will probably lead to a continued specialization in exports of primary products. But this specialization is rarely accompanied by growth of income, which, of course, brings us back to the original assumption which prompted import substitution. Indeed, it is difficult to conceive of a viable long-term development strategy without import substitution. Moreover, it is difficult to argue that other growth strategies are less liable to errors in policy and implementation.

REFERENCES

1. AHMAD, J. "Import Substitution in Indian Manufacturing Industry," *Journal of Development Studies*. Vol. 4, No. 3 (April 1968).
2. ————. *Measuring the Influence of Domestic Demand and Foreign Trade on Economic Development* (Montreal: International Institute of Quantitative Economics, 1970).
3. ————. "Import Substitution and the Growth of Exports—An Econometric Test," *Revue Economique*, Vol. 27, No. 2 (March 1976).
4. ————. "Domestic Demand and Ability to Export in Developing Economies: Some Preliminary Results," *World Development*, Vol. 4, No. 8 (August 1976).
5. ————. *Import Substitution, Trade and Development* (Connecticut: Johnson Associates Press, 1978).
6. BAER, W. "Import Substitution and Industrialization in Latin America—Experiences and Interpretations," *Latin American Research Review*, Vol. 7, No. 7 (Spring 1972).
7. BAER, W., and MANESCHI A. "Import Substitution, Stagnation and Structural Change: An Interpretation of the Brazilian Case." *Journal of Developing Areas*, Vol. 5, No. 2 (January 1971).
8. BALASSA, B. *The Structure of Protection in Developing Countries* (Baltimore: Johns Hopkins Press, 1971).
9. BARDHAN, P. K. *Economic Growth, Development and Foreign Trade* (New York: John Wiley, 1970).
10. BASEVI, G. "Domestic Demand and Ability to Export," *Journal of Political Economy*, Vol. 78, No. 2 (March/April 1970).
11. BHAGWATI, J. "The Generalized Theory of Distortions and Welfare," in *Trade, Balance of Payments and Growth*, ed. J. Bhagwati et al. (Amsterdam: North Holland Publishing Co., 1971).
12. BHAGWATI, J., and RAMASWAMI, V. K. "Domestic Distortions, Tariffs and Theory of Optimum Subsidy," *Journal of Political Economy*, Vol. 71, No. 1 (February 1963).
13. BHAGWATI, J., and DESAI, P. *India—Planning for Industrialization* (London: Oxford University Press, 1970).
14. BHAGWATI, J., and KRUEGER, A. "Exchange Control, Liberalization and Economic Development," *American Economic Review—Papers and Proceedings*, Vol. 63, No. 2 (May 1973).
15. BHAGWATI, J., and SRINIVASAN, T. N. "The General Equilibrium Theory of Effective Protection and Resource Allocation," *Journal of International Economics*, Vol. 3, No. 3 (August 1973).
16. BRUNO, M. "Domestic Resource Costs and Effective Protection: Clarification and Synthesis," *Journal of Political Economy*, Vol. 80, No. 1 (January/February 1972).
17. BRUTON, H. J. "Import Substitution and Productivity Growth," *Journal of Development Studies*, Vol. 4, No. 3 (April 1968).

18. ————. "Employment, Productivity and Import Substitution," mimeographed (Center for Development Economics, Williams College, 1972).
19. CHENERY, H. B. "Patterns of Industrial Growth," *American Economic Review*, Vol. 50, No. 3 (September 1960).
20. ————. "Comparative Advantage and Development Policy," *American Economic Review*, Vol. 51, No. 5 (March 1961).
21. CHENERY, H. B., SHISHIDO, S., and WATANABE, T. "The Pattern of Japanese Growth—1914–1954," *Econometrica*, Vol. 30, No. 1 (January 1962).
22. CHENERY, H. B., and RADUCHEL, W. J. "Substitution in Planning Models," in *Studies in Development Planning*, ed. H. B. Chenery et al. (Cambridge, Mass.: Harvard University Press, 1971).
23. CLAGUE, C. K. "Capital-Labor Substitution in Manufacturing in Underdeveloped Countries," *Econometrica*, Vol. 58, No. 4 (July 1969).
24. CONCEICAO, M. "The Growth and Decline of Import Substitution in Brazil," in *Economic Bulletin for Latin America*, Vol. 9 (March 1964).
25. CORDEN, M. *The Theory of Protection* (Oxford: Clarendon Press, 1971).
26. DESAI, P. "Alternative Measures of Import Substitution," *Oxford Economic Papers*, Vol. 21, No. 3 (November 1969).
27. DIAZ-ALEJANDRO, C. F. "On the Import-Intensity of Import Substitution," *Kyklos*, Vol. 18, No. 3 (1965).
28. FELIX, D. "Did Import Substitution Industrialization in Argentina Save Foreign Exchange in 1953–1960," mimeographed (Instituto Torcuato de Tella, Buenos Aires, 1965).
29. ————. "The Dilemma of Import Substitution—Argentina," in *Development Policy—Theory and Practice*, ed. G. F. Papanek (Cambridge, Mass.: Harvard University Press, 1968).
30. FINDLAY, R. *International Trade and Development Theory* (New York: Columbia University Press, 1973).
31. FURTADO, C. *Economic Development of Latin America* (Cambridge: Cambridge University Press, 1970).
32. GRIFFIN, K. B., and ENOS, J. L. *Planning Development* (London: Addison-Wesley Publishing Co., 1970).
33. GRUBEL, H., and JOHNSON, H. G., eds. *Effective Tariff Protection* (Geneva: Institute of International Studies, 1971).
34. GUISSINGER, S. "Tariffs and Trade Policies for the Ethiopian Manufacturing Sector," Economic Development Report No. 238 (Center for International Affairs, Harvard University, 1974).
35. HAGEN, E. E. "An Economic Justification of Protectionism," *Quarterly Journal of Economics*, Vol. 72, No. 4 (November 1958).
36. HELLEINER, G. K. *International Trade and Economic Development* (Harmondsworth: Penguin Books, 1972).
37. HIRSCHMAN, A. O. "The Political Economy of Import Substituting Industrialization in Latin America," *Quarterly Journal of Economics*, Vol. 82, No. 1 (February 1968).
38. HSU, R. "Changing Domestic Demand and Ability to Export," *Journal of Political Economy*, Vol. 80, No. 1 (January/February 1972).
39. HUDDLE, D. L. "Postwar Brazilian Industrialization, Growth Patterns, Inflation and Sources of Stagnation," in *The Shaping of Modern Brazil*, ed. E. N. Baklanoff (Baton Rouge: Louisiana State University Press, 1969).
40. JOHNSON, H. G. "Tariffs and Economic Development: Some Theoretical Issues," *Journal of Development Studies*, Vol. 1, No. 1 (October 1964).
41. ————. "A New View of the Infant Industry Argument," in *Studies in International Economics*, ed. I. A. McDougall and R. H. Snape (Amsterdam: North Holland Publishing Co., 1970).
42. JOHNSON, L. L. "Problems of Import Substitution: The Chilean Automobile Industry," *Economic Development and Cultural Change*, Vol. 15, No. 2, Part 1 (January 1967).

43. JONES, R. "Factor Proportions and the Heckscher-Ohlin Theorem," *Review of Economic Studies*, Vol. 24 (1956).
44. KELLY, A. C., WILLIAMSON, J. G., and CHEETHAM, R. J. *Dualistic Economic Development: Theory and History* (Chicago: University of Chicago Press, 1972).
45. KEMP, M. C. "The Mill-Bastable Infant Industry Dogma," *Journal of Political Economy*, Vol. 68, No. 1 (February 1960).
46. KENEN, P. B. "Nature, Capital, and Trade," *Journal of Political Economy*, Vol. 73, No. 5 (October 1965).
47. KING, T. *Mexico—Industrialization and Trade Policies since 1940* (London: Oxford University Press, 1970).
48. KRUEGER, A. O. "Evaluating Restrictionist Trade Regimes: Theory and Measurement," *Journal of Political Economy*, Vol. 80, No. 1 (January/February 1972).
49. LARY, H. B. *Imports of Manufactures from Less Developed Countries* (New York: National Bureau of Economic Research, 1968).
50. LEWIS, S. R. "Recent Movements in Agriculture's Terms of Trade in Pakistan," *Pakistan Development Review*, Vol. 10, No. 3 (Autumn 1970).
51. LEWIS, S. R., and SOLIGO, R. "Growth and Structural Change in Pakistan Manufacturing Industry, 1954–1964," *Pakistan Development Review*, Vol. 5, No. 1 (Spring 1965).
52. LEWIS, S. R., and GUISENGER, S. E. "Measuring Protection in a Developing Country: The Case of Pakistan," *Journal of Political Economy*, Vol. 76, No. 6 (December 1968).
53. LINDER, S. B. *An Essay on Trade and Transformation* (New York: John Wiley, 1961).
54. LITTLE, I. M. D., SCITOVSKY, T., and SCOTT, M. *Industry and Trade in Some Developing Countries* (London: Oxford University Press, 1970).
55. MACARIO, S. "Protectionism and Industrialization in Latin America," in *Economic Bulletin for Latin American*, by United Nations, Vol. 9 (March 1964).
56. MAIZELS, A. *Industrial Growth and World Trade* (London: Cambridge University Press, 1963).
57. MALLON, R. D. "Export Policy in Pakistan," *Pakistan Development Review*, Vol. 6, No. 1 (Spring 1967).
58. MANOILESCO, M. *Theory of Protection and International Trade* (London: P.S. King and Sons, 1931).
59. MARGLIN, S. *Public Investment Criteria* (Oxford: Clarendon Press, 1964).
60. MARTENS, A. "The Two-Gap Theory of Development Reconsidered with Special Reference to Turkey," *European Economic Review* (Summer 1970).
61. MINHAS, B. S. *An International Comparison of Factor Costs and Factor Use* (Amsterdam: North Holland Publishing Co., 1963).
62. MORAWETZ, D. "Employment Implications of Industrialization in Developing Countries: A Survey," *Economic Journal*, Vol. 84, No. 335 (September 1974).
63. MORLEY, S. A., and SMITH, G. W. "On the Measurement of Import Substitution," *American Economic Review*, Vol. 60, No. 4 (September 1970).
64. MYRDAL, G. *An International Economy* (New York: Harper and Row Publishers, 1965).
65. PACK, H., and TODARO, M. "Technical Transfer, Labor Absorption and Economic Development," *Oxford Economic Papers*, Vol. 21, No. 3 (November 1969).
66. POWER, J. G. "Import Substitution as an Industrialization Strategy," *Philippine Economic Journal*, Vol. 6, No. 1 (Spring 1971).
67. POWER, J. G., SICAT, G., and HSING, M. *The Philippines and Taiwan: Industrialization and Trade Policies* (London: Oxford University Press, 1970).
68. REDDAWAY, W. B. *The Development of the Indian Economy* (Homewood, Ill.: Richard D. Irwin, 1962).
69. REPPY, J. V. "Small Market Constraints on Import Substituting Industrialization" (Ph.D. thesis, Cornell University, 1972).
70. SEERS, D. "A Model of Comparative Rates of Growth in the World Economy," *Economic Journal*, No. 285 (March 1962).
71. SEN, A. *Employment, Technology and Development* (Oxford: Clarendon Press, 1975).

72. SHEAHAN, J. "Import Substitution and Economic Policy: A Second Review," mimeographed (Center for Development Economics, Williams College, 1972).
73. SOLIGO, R., and STERN, J. "Tariff Protection, Import Substitution and Investment Efficiency," *Pakistan Development Review*, Vol. 5, No. 2 (Summer 1965).
74. STERN, R. M. "Tariffs and Other Measures of Trade Control: A Survey of Recent Development," *Journal of Economic Literature*, Vol. 11, No. 3 (September 1973).
75. STEUER, M. D., and VIOVODAS, C. "Import Substitution and Chenery's Pattern of Industrial Growth—A Further Study," *Economia Internazionale*, Vol. 28, No. 1 (February 1965).
76. STEWART, F., and STREETEN, P. "Conflicts between Output and Employment Objectives in Developing Countries," *Oxford Economic Papers*, Vol. 23, No. 2 (July 1971).
77. STRASSMAN, W. P. *Technological Change and Economic Development* (Ithaca: Cornell University Press, 1968).
78. SUTCLIFFE, R. B. *Industry and Underdevelopment* (London: Addison-Wesley, 1971).
79. TAYLOR, L. "Scheduling Import Substitution in a Two-Gap Development Model," mimeographed (Project for Quantitative Research in Economic Development, Harvard University, 1967).
80. TEMIN, P. "A Time Series Test of Patterns of Industrial Growth," *Economic Development and Cultural Change*, Vol. 15, No. 2, Part 1 (January 1967).
81. TYLER, W. G. "Structural Interdependence, Import Substituting Industrialization and Manufactured Exports Expansion in Brazil," *Weltwirtschaft*, July 1973.
82. ———. "Labor Absorption with Import Substituting Industrialization: An Examination of Elasticities of Substitution in the Brazilian Manufacturing Sector," *Oxford Economic Papers*, Vol. 26, No. 7 (March 1974).
83. United Nations, Industrial Development Organization. *Guidelines for Project Evaluation* (1972).
84. WILLIAMSON, J. G. "Capital Accumulation, Labor Saving, and Labor Absorption Once More," *Quarterly Journal of Economics*, Vol. 85, No. 1 (February 1971).
85. YANG SHU-CHIN. "National Policies for Import Substitution and Export Promotion," in *Planning the External Sector: Techniques, Problems and Policies*, by United Nations (1967).