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10. Abstract

Present Indian export incentives are examined in the light of their effect on the cost of the foreign exchange earned by exports. It is found that not only do Indian export incentives fail to systematically promote the most efficient earners of foreign exchange, as has been charged elsewhere, but that these incentives further tend to raise the cost of those exports to which they are applied. Alternative promotional systems are then presented.

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Indian Export Incentives: A Critical View

by Charles P. Staelin*

Indian nontraditional exports, and especially Indian engineering goods exports, have enjoyed a fairly rapid growth in contrast to India's rather poor overall export performance. Certainly India's long history of export incentives to nontraditional exports deserves a large share of the credit, although the slow-down in export growth from 1970-71 indicates that the serious recession of 1966 through 1969 also played an important part in the rapid export growth during the recession years.

Recently, however, two studies, Bhagwati and Desai (1970) and Staelin (1972a), have indicated that the growth in nontraditional exports has not been costless. Foreign exchange earned through the export of nontraditional goods may have been as much as 80% more costly in terms of domestic resources consumed than exchange earned through traditional exports (Staelin [1972a]). Moreover, even among nontraditional exports there is evidence of wide variation in the resource cost of individual products with the level of export assistance showing no discernible positive relationship with the export efficiency of the product promoted. Indeed, Bhagwati and Desai postulate

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*The author is Research Associate at the Center for Research on Economic Development of The University of Michigan. This article stems from observations made while pursuing research for the author's Ph.D. dissertation (Staelin [1971]) and owes much to the monetary and other support during 1969/70 of the Indian Institute of Foreign Trade and the Mission to India of the United States Agency for International Development. Of course the views expressed herein are those of the author and do not necessarily reflect the views of either institution.

a perverse relationship for pre-devaluation schemes whereby the amount of assistance varied inversely with the efficiency of the export.

There may be two explanations for this phenomenon: the incentive structure may be administered in such a way as to act perversely, or the nature of the incentives themselves may lead to this result. In the Indian case both explanations are no doubt valid.

This paper examines a few of the major faults of the Indian export-incentive tools. It is not a survey or description of Indian export policies--this has been done by others--nor is it a study of the administration of these tools. Rather this paper discusses a few of the major export incentives themselves, demonstrating that some of the tools fail individually to promote the most efficient exports in the most efficient manner.

Section I briefly discusses the proper goals of an export incentive system while Sections II and III discuss individual incentives. Section IV looks very briefly at the system as a whole and suggests some alternatives.

I

The major principle of Indian export incentive policy is to attack individually each factor leading to the high cost of Indian exports (e.g., high transport charges, intermediate input prices, capital costs, indirect taxes, and tariffs). Yet the effect of this policy is to subvert comparative advantage by allowing the export of high-cost goods. Although in an imperfect market system not all private costs are necessarily social costs, some certainly are. Thus to compensate all sources of high costs is potentially as inefficient as compensating none of them. There must be a more selective export incentive structure.

The goal of exports--as of foreign trade in general--is to increase

the availability of goods and services to the economy by trading those goods which a nation can produce at a low resource cost to itself for goods which it could produce only at a higher resource cost. Export promotion then should seek to promote only those exports which are produced efficiently. Dynamic and developmental considerations can complicate the definition and measurement of efficiency by forcing the explicit treatment of time, but the general goal remains the same.

What is needed then is a measure to distinguish among goods in order to identify efficient exports. One such measure which has received a great deal of attention in the recent literature is the Domestic Resource Cost (DRC) concept, known also as the Domestic Cost of Foreign Exchange.[1]

The DRC is essentially a benefit-cost ratio measuring the cost of domestic resources consumed per unit of the net foreign exchange earned (or saved) by the exportation (or import substitution) of a given product. The net foreign exchange earned (or saved) is the f.o.b. export price (or the c.i.f. import price) less the c.i.f. value of all imports used directly and indirectly in production. DRC then indicates the opportunity cost of the foreign exchange earned by any given export, and, in equilibrium, the DRC of all exports should be equal and equal to the shadow price of foreign exchange.

If an incentive system is to promote exports efficiently, it should promote those exports with the lowest DRC, or at the least, refrain from promoting those with high DRC. In addition, the system should not distort the production or sales decisions of export producers so as to raise the DRC of those products to which the incentives are applied, e.g., by inducing the use of high-cost domestic inputs or distorting the optimal mix of domestic and imported inputs. Rather the system should attempt to

correct those distortions which raise DRC and which thereby waste domestic resources.

There are in India two major types of distortions which raise the DRC of exports and which must therefore be attacked by export-promotion policy: distortions in the production of exports and distortions in the pricing of exports.

With respect to production, DRC may be optimized by inducing the producers of exports to use the socially least costly mix of domestic and imported inputs. On the domestic side, inputs and factors which have a low social resource cost, but which have a high market price due to high indirect taxation, factor market imperfections or other market distortions, should be subsidized for use in exports. Inputs with high resource cost but low market prices--e.g., goods whose production is subsidized--should be taxed when used in exports. On the import side, imports should be substituted for (replaced by) domestic resources whenever the ratio of the domestic resources saved to the foreign exchange spent exceeds (falls below) the shadow rate of foreign exchange to the economy. As seen below this does not generally mean the minimization of import contents, i.e., the maximization of domestic value added.

With respect to the pricing of exports, the DRC concept implies that the export price of each export should be lowered (through the expansion of exports) until the marginal DRC--the opportunity cost of the foreign exchange earned by the export--rises to the shadow price of foreign exchange to the economy. All goods with DRC below the shadow rate of exchange--after their domestic input and domestic versus imported input mixes have been optimized--should be subsidized and expanded until their DRC rises to the optimal level. Conversely, the exports of high-DRC goods should be

restricted, raising the export price and lowering the DRC to the optimum level, although for many goods exports will fall to zero before this point is reached.

II

Domestic price distortions should normally be corrected through taxes or subsidies which equate the market price of each factor to its resource cost. The resulting relative prices of every good produced will then be correct and profit-maximizing producers will automatically choose the socially least costly input mix. However, if exports alone are to be affected--which seems to be the plan of the Government of India (GOI)--all factors in the economy cannot be taxed or subsidized. Yet to subsidize or tax only those factors used in the production of exports will not be enough. Exports use domestically produced inputs in production and all of these inputs must have their relative prices adjusted. A system which would adjust all these relative prices for sales to export industries alone would be terribly complex, and it would not correct the inefficiencies in supplier industries stemming from the distorted prices that they must pay. However, India has tried partial moves in this direction and it is to these incentives that we first turn.

Incentives which are designed to correct internal price distortions are the Green Form Allotment, excise-duty drawback, export-credit, railway transport, industrial licensing and Cash Assistance incentives.

Green Form subsidies would seem to operate in precisely the wrong way by raising rather than lowering the DRC of exports. The domestic resource costs of domestically produced plastics and steel, the major Green Form inputs, are at least as high as their market prices.[2] The production of

steel is already subsidized through the losses of the state-owned Hindustan Steel Ltd., both goods are capital-intensive in a capital-scarce country, and the relatively high excise taxes on steel and plastics are rebated separately. To encourage the use of domestic rather than imported supplies can only raise the cost of foreign exchange earnings. Although lowering the import content raises the net exchange earnings per unit of exports, here it raises the resource cost of exports by even more, thus raising the resource cost per unit of foreign exchange earned.

The same perversity holds true for export-credit subsidies. The market price of capital to exporters is below its shadow price (organized non-bank lending takes place at much higher interest rates) and the credit subsidies lower its market price to exporters still further.

Both the Green Form Allotment and export-credit subsidies are rationalized on the ground that India's competitors pay less for plastics, steel, other intermediate inputs, and working capital, than do Indian exporters. Yet this is not necessarily a distortion which should be "corrected," but rather an indication of where India's comparative advantage lies.[3] The Green Form Allotment and export-credit subsidies--manifestations of the scientific tariff fallacy--themselves distort the Indian exporters' perceptions of comparative advantage and induce them to use high-cost inputs. Since both these subsidies are given primarily in order to increase the competitiveness of Indian industrial exports, an export subsidy on output would do the same thing without creating new distortions.[4]

Rail transport subsidies may also be perverse although it is not clear a priori how the shadow price of rail transport differs from its market price.[5] Yet the rail transport subsidy is seldom justified on the basis of shadow prices, but rather on the basis of another goal, the regional

dispersion of industry. We would argue that exports should be free from other goals, even when, as in this case, the other goals work to the monetary advantage of certain exporters. It is difficult enough to fulfill the primary goal of exports without having to be concerned with secondary goals as well. In a country where exports form a small proportion of total output, as they do in India, the exemption of exports from the requirements of other policies will not seriously undermine the other goals to which the economy is striving. If foreign exchange is truly scarce, India cannot afford to be wasteful in earning it. Indeed, exempting exports may, through the freeing of resources brought on by the increase in economic efficiency, help to facilitate the achievement of those other goals.

The drawback of excise duties does remove a true distortion. On the assumption that indirect taxes on domestic intermediate goods are intended only to raise revenue and not to serve any rational allocative role (such as compensating for other incorrect factor prices) indirect domestic taxes are purely internal transfers and do not reflect any resource costs. They should therefore be rebated, not only to lower the export price to reflect true resource costs, but also to correct the production distortions to which the taxes give rise. Indeed, the whole incidence of indirect taxes should be rebated, not only the direct incidence as is done now, and the calculation of direct-plus-indirect tax incidence is relatively simple.

However, the drawback of domestic indirect taxes for export production alone may do little to correct the inefficient input mix in export production. Export production generally forms a small proportion of total inputs and export producers may not change their production input mix when only a small proportion is affected by rebates. Neither can the rebates change the use of inputs in those domestic industries which supply direct

and indirect inputs to the export sector and it is here that many of the distortions may lie. In addition, tying a separate rebate to the use of each input would be an administrative nightmare, but this would be necessary if rebates were to cure any distortions. Since the actual production distortions are apt not to be cured by individual rebates, it seems preferable to simply compensate Indian exporters for the high incidence of indirect taxes with a properly calculated and generous subsidy on exports, rather than to tie the rebates to specific inputs, as economic theory would suggest. For the distortions can be eliminated only when the GOI looks beyond exports and at the economy as a whole.[6]

A frequent complaint of Indian exporters, and one of the justifications for Cash Assistance, is that India is unable to reap economies of scale in either the production of exports or in the production of the inputs consumed by exports. The responsibility must be laid in large part on the licensing policy of the Government of India which encourages the establishment of small-scale industry by cutting off the import of any good which can be produced in sufficient quantity domestically. Yet import substitution--and the limited domestic demand for high-cost import substitutes--is not the only reason for the existence of small-scale industries. The GOI has long maintained, at least verbally, strong positions against monopoly and for regional balance and both goals have required that most industries be composed of several small-scale firms. The GOI policy tool has been industrial licensing, and although the tool has often been used with frightening ineptness,[7] this is not the issue here. Our concern is not with the wisdom of import substitution, anti-monopoly and regional balance policies, which we here take as givens, but rather the question of whether they should be a factor in export policy.

We have argued above that the export sector should not be burdened with other domestic goals; unfortunately it is not possible to fully exempt it. As long as it is more efficient (in terms of DRC) to import inputs than to purchase them from inefficient small-scale domestic industry (see the discussion of import policy below), it is clear that the inputs should be imported. Yet there is still a problem when a good is produced efficiently enough domestically to be used in export production yet could be produced even more efficiently were the scale of its production increased. In addition, import policy can not help to reduce the factor costs of the export good which is itself produced on a small scale. There would seem to be no solution to these last two difficulties as exports and domestic production come from the same plants, and, even if it were possible to produce exported goods separately from domestic goods, few nontraditional exports are exported in sufficient volume to make large-scale production for exports alone possible. If exports must then permanently suffer from other goals, they should not be compensated for it. Subsidies will not result in the export industry ever actually reaping economies of scale,[8] and the inefficiency of small-scale production should become a factor in determining comparative advantage. If Indian exporters must operate under constraints as to the size of firms and plants, the export mix should reflect these realities. The subsidization of high-cost exports because they might be low-cost, but are not and will never be, results in nothing but inefficient exports. For this reason, there is no justification for Cash Assistance on the basis of compensation for small-scale production.

The expansion-licensing incentive is also not the solution to the problem of scale. First, it is a strong export incentive even for firms without economies of scale, an incentive dependent more upon the existence

of profitable domestic markets than on low costs. Second, this incentive can lead easily to an extreme form of dumping, i.e., the selling of exports below their cost to the firm and to society. Third, the expansion licensing incentive can lead to the creation of excess capacity, an expensive luxury in a capital poor country. And finally, even if the incentive does succeed in creating scale economies in the export industry, it can do nothing to promote scale economies in supplier industries.

The first three difficulties with the expansion-licensing incentive can be seen quite easily diagrammatically. Assume that the firm represented in Figure 1 with marginal revenue curve MR_H and marginal cost curve MC_o is offered a license to expand by a factor k beyond its present licensed capacity, T_o, and that the result would be to shift the marginal cost curve from MC_o to MC'. Assume further that in order to be granted the license the firm must agree to export some minimum proportion (u) of the new capacity. Ignoring expansion costs and given the export price P_X, the firm would normally be unwilling to export at all; it would rather expand domestic sales to T. However, if it is forced to export, it would do so at price P_X, decreasing domestic sales until at domestic sales of H, $\overline{gf}/\overline{hg}$ is equal to u. At this final position costs have risen by the area $T_o ceT$ and revenues by the area $T_o abgfT$. Profits will have increased if the area abdc exceeds the area defg; unless they have, the firm will choose not to accept the expansion license and its accompanying constraint.

The lower is P_X, the smaller must be the export proportion u. Conversely, the smaller is u, the lower will be the export price at which the firm will be willing to export. The capacity incentive is most effective for firms with a large divergence between domestic marginal revenues and marginal costs (i.e., firms with highly profitable domestic markets) and

for firms with gently sloping marginal cost and marginal revenue curves. Falling cost curves are not necessary for the incentive to be effective.

In general, the minimum export price will be relatively small. Indeed, assuming constant marginal cost and marginal revenue, an export commitment as large as 50% of the new capacity and $MR_{T_o} = 1.25\ MC_{T_o}$, an export price of $P_X = 0.75\ MC_{T_o}$ is all that is necessary for the firm to accept the license. These figures are fairly conservative, yet they still result in an export price below cost. If private costs reflect social costs, exports at this price are obviously socially unprofitable.[9]

A firm would not normally desire to expand its capacity beyond the intersection of its marginal cost and marginal revenue curves. However, under the expansion-licensing scheme there may be an incentive to do so. Take the firm in Figure 2 which is granted a license to expand beyond the intersection at T_o. If it expands to T, the firm will, for the number of years of its export requirement, export uT and sell H' on the domestic market with a gain in profits (over not expanding) of the areas befj -fkig. Profits may be increased, however, by expanding beyond T, say to T_e, if the area gexz - ikqp, discounted over the period of the export commitment, exceeds the cost of expansion from T to T_e. When domestic sales are very profitable this is not unlikely. In effect, the firm buys increased domestic sales by taking losses on the additional exports which are required to keep its export commitment. Once the export commitment has been satisfied, the firm will discontinue exports, raise domestic sales to T, and the additional capacity above T will go unutilized. Thus, the expansion licensing incentive may lead to the installation of excess capacity.

Cash Assistance has also been justified on the basis of the higher domestic costs of production in India and on the high ocean freight rates paid by Indian exporters. In general, these higher costs do reflect the higher resource costs of Indian exports--except perhaps when due to inflated labor costs or when due to the overvalued exchange rate--and they should be a sign of comparative disadvantage.

In the realm of domestic price distortions then, all but one of the present major GOI export incentives, the excise-duty drawback, are lacking of any good economic rationale. They tend to promote the wrong kinds of exports and to distort the production and sale of exports toward more rather than less costly methods. This does not mean that there is no place for other incentives in this field, only that the present ones are inefficient. The major problem in recommending other incentives is the inseparability of export and domestic production. Exports are in almost all cases firmly embedded within the structure of the domestic economy. To treat exports in isolation, while still changing the mix of resources which they consume, seems impossible. In cases where export industries are unjustly penalized by domestic distortions (e.g., by the high market costs of labor) it would seem that they might as well be relieved through direct subsidies on output as through direct subsidies on the distorted input, the subsidy on output being calculated on the export good's use of the distorted input. This is a second-best solution, but no more so than the direct subsidy on the input into export production alone which also fails to correct the distortion. What is required is an economy-wide system of taxes and subsidies at the sources of distortions if they are to be corrected.

III

Several of the present GOI export incentives are designed to correct exchange-rate distortions, that is, distortions between domestic and world prices caused by an overvalued exchange rate and other commercial policies. They are import-duty drawbacks, Import Replenishment and Cash Assistance. The first-best policy for correcting foreign price distortions brought about by an overvalued exchange rate is devaluation, the second-best policy is the Lerner-type uniform import tariff and export subsidy. Both of these policies face strong opposition given the political climate in India which does not allow devaluation, and the passion for import substitution which requires that tariffs be differentiated among industries and be greater than the devaluation equivalent.

Import duties are indirect taxes and, like excise taxes, they have a zero resource cost. Yet, unlike domestic excise taxes, they do serve an important allocative function when the exchange rate is overvalued; tariffs raise the market prices of imports toward the shadow price of foreign exchange. Therefore, in order to correctly price imports to the export industries, only the amounts of import duty over and above the duty required to offset the overvalued exchange rate should be rebated, not the full import duty, as is now done. For when full rebates are given in order to subsidize exports, they distort import prices and may raise the social cost of foreign exchange.

Yet, to figure the proportion of the import duty which is in "excess" could be very difficult. When domestic market distortions exist or when import-supply elasticities are finite, different imports require different rates of duty to compensate for the overvalued exchange rate[10] and so no one single level of tariffs can be considered legitimate. What is

necessary is to determine the tariff structure which would be equivalent to a devaluation and apply these tariffs to the inputs used in exports, but this will not be independent of export policy and incentives. There is a general equilibrium system involved here which is in practice impossible to solve given the lack of adequate data, and which is unprofitable to solve given the relative ease of devaluation. Devaluation is the best alternative, but, devaluation aside, the next best policy might be to cease the drawback of import duties entirely and to rely instead on a variation of the present system of import licensing described below. Another alternative is simply to ignore the problem and to continue with import-duty drawbacks, but there would still be a need for some form of import licensing as world prices are no better, and perhaps worse, an allocator of imports than existing tariffs when the exchange rate is overvalued. Also, in India, the tariffs on intermediate goods are generally reasonable and any excess tariff is likely to be small. Since the composition of imports must be regulated in some other manner than tariffs, there is no allocative role to be played by rebates and the increased market cost of exports without rebates can be offset in other, more simplified ways, i.e., by cash subsidies.

If the prices of imported inputs for exports could somehow be corrected (e.g., through devaluation or a complex duty-drawback scheme) detailed import licensing for exporters could be abolished. The purpose of import controls, at least for exports, should be to optimize the use of imported inputs (not to minimize them as often seems to be the aim of Indian import policies) and this can be done most efficiently through prices. But if devaluation is impossible, and given the practical difficulty of adjusting import prices properly through rebates, import licensing

is thrust into the role of allocating imports and setting the proper mix of imported inputs in production. Feeling a responsibility to offer alternatives, such a solution involving import licensing is offered in the next section.

At this point it is useful to digress a bit to examine how the proper imported vs. domestic input mix is determined and to show that although using import licensing to maximize rather than optimize domestic value added may result in higher net foreign exchange earnings per unit of exports, the cost of those earnings may be much higher than is necessary. Figure 3 shows the combination of domestic and imported inputs (including factors) which can be combined to produce one dollar's worth of export of a particular good. No substitution between inputs is allowed but inputs may be either imported or produced domestically. If all inputs are domestically supplied, production is at point A. Individual inputs are then imported rather than produced domestically, beginning with that input which, if imported, would save the most domestic resources, V_H, per unit of c.i.f. foreign exchange cost, M (i.e., that input with the lowest DRC). The curve AB can be traced out by importing successive inputs until point B is reached at which no further import is possible if the good is still to be produced domestically. At point B there may be negative value added, that is, the c.i.f. cost of inputs may exceed one dollar.

The marginal rate of substitution between domestic and imported resources, MRS_{VM}, is given by the slope of the curve AB at any point. For private profit maximization, the optimal production mix is at the point where MRS_{VM} equals the official exchange rate plus tariffs. The optimal production point for society is at the point at which MRS_{VM} equals the shadow exchange rate. If the slopes of CN and EF are the shadow and

official exchange rates respectively, G and H are respectively the social and private profit maximization points. DRC is given by $V_H/(1 - M)$, that is, the additive inverse of the slope of the line from unity on the foreign exchange axis, M, to the point on the curve. Minimum DRC occurs at point K, but this would correspond to the socially optimal point only by coincidence. Minimum DRC is the proper criteria for choosing export goods but it is not the proper criteria for choosing the proper input source mix.[11] In addition, it is obvious that the point of minimum import content, point A, is not usually the optimal input source mix, in spite of the belief of many LDC policy-makers.

Another difficulty with the current Import Replenishment scheme should also be mentioned. The complexity of the incentives offered to export producers and, especially to the multi-product firm, defies simple analysis. Under the present scheme a linear programming approach[12] must be used in order to truly determine the effects of import replenishment on the level of exports and on the use of imports in export production. As is well known, the present scheme does not always work as it is intended and despite the best policing efforts of the GOI, the diversion of imports into domestic production remains extremely profitable, raising the incentive to export, but undermining the Import Replenishment scheme as an allocative device.

Cash Assistance should correct the implicit tax on exports created by the overvalued exchange rate, but in India it seems to be differentiated simply on the basis of need rather than any more rational economic foundations. Need, normally the difference between the cost of production and the export price, may be due to a host of factors: indirect tax incidence, distorted factor and import prices, transport costs, inefficiency

in production and many other factors in addition to the overvalued exchange rate, and yet the present Cash Assistance scheme pays little attention to the source of the differential. It is true that with an overvalued exchange rate and imperfect domestic markets it may not be said that a good with a larger domestic-f.o.b. price differential is a less efficient earner of foreign exchange (in the DRC sense) than a good with a smaller differential. Yet neither is the converse true and the present system, by allowing the export of virtually any good, ignores comparative advantage rather than seeking it out.

Since Cash Assistance must cover a multitude of distortions aside from overvaluation when the export sector is treated in isolation and not all distortions can be cured directly, no simple rule is possible. Yet it is clear that export subsidies should be given only to efficient exports; inefficient exports are not worth exporting, let alone promoting with scarce government revenues. Indeed, the cost of promoting the wrong exports can be rather high (Staelin [1972a]). And it is not so difficult to identify efficient exports. Devaluation and trade liberalization are again the best beginning, removing as they do both import and export price distortions which are, perhaps, the major sources of difficulty. Although with domestic market distortions prices will still not perfectly indicate comparative advantage, the distortions are likely to be smaller and more easily treated with either tax-cum-subsidy policies at the source of the distortion or properly calculated export subsidies should the former prove impractical. But regardless of the policies followed, the measurement of DRC provides a relatively simple and sure method of determining the most efficient exports for promotion through Cash Assistance.

IV

It is difficult for the academic economist to suggest second-best solutions. However, if he is to be at all useful in the "real world" he must give policy makers realistic alternatives from which to choose. As has been said several times before, the optimal solution to the quagmire of Indian export incentives is the abolition of most export incentives on the domestic side, their replacement by economy-wide policies to truly correct domestic distortions, and devaluation and trade liberalization on the exchange rate side. The freeing of exports from excessive controls, from the inefficiencies of the domestic economy, and from the overvalued exchange rate can do wonders. Some promotion will still be necessary--particularly in the marketing area but also including direct and indirect subsidies to correct, or at least compensate for, the remaining export-related distortions--and the basis for promoting individual exports can rest on their efficiency in earning foreign exchange, their DRC.

Yet, if devaluation is impossible, another, inferior alternative presents itself for ameliorating the effects of the overvalued exchange rate. It involves the retention of the Indian Import Replenishment scheme, but with a completely different criterion for import than is now employed. Any imported input which would move the domestic resource cost of foreign exchange of the exported good toward its optimal level (see p. 16) should be allowed at the c.i.f. price plus the "proper" tariff. The proper tariff is that tariff which exactly compensates for the overvalued exchange rate. In practice, the proper tariff is impossible to determine and existing tariffs may be used for lack of better information. But the DRC of the export good is <u>independent</u> of the level of tariffs[13] and determining how the import of a given input will change the DRC of an export is easily

done.

It should be emphasized that a free import policy is not called for. When the exchange rate is overvalued, not all imports which are cheaper than their domestic counterparts are efficient imports. Also, the Import Replenishment system should not be used as a means of subsidization. The process of ensuring that inputs come from the proper source, and the awarding of subsidies, are not related and should not be confused.

Import licensing is suggested as an element in export policy only with great reservations, and only as long as the superior policies of devaluation and import liberalization are not possible for the whole economy. Devaluation is certainly far superior. But it is likely that import licensing can be more effective than trying to arrange the tariff rebates on imports used in exports such that exporters are induced to use precisely the correct mix of imported inputs. Aside from problems in determining the correct levels of rebates, it would be impossible to separate the imports used for exports and those used for domestic production unless imports were tied to exports, i.e., unless imports were licensed, in which case the rebates would be redundant.

Import Replenishment adjusts for exchange rate distortions only on the import side. The retarding effects of an overvalued exchange rate on exports must also be relieved and under this second alternative this would be the major role of Cash Assistance. Export subsidies should not be uniform but should be differentiated such that the level and the export price of each export is adjusted so as to equate the domestic resource cost of the foreign exchange earned by all export on the margin. The proper subsidy for each export is not easy to determine a priori; the same subsidy will affect the exports of different firms and different products to different

degrees. Yet the targets, the relative DRC of individual exports, are not difficult to evaluate and a series of successive approximations to the optimal level of subsidies should be possible (see Staelin [1971], pp. 351-357).

The first alternative policy recommended here is then one of selective and differentiated export subsidies and import licensing for exports, coupled with the same policies for domestic distortions as suggested for the devaluation alternative. However, if the GOI insists on the present practice of isolating all export policies, the economy-wide taxes and subsidies for domestic distortions will not be possible. Another alternative is required here as well.

The difficulty in correcting distortions in export production and in the production of goods used in exports has already been mentioned. If most of these distortions can not be corrected (and there will be only a few which can) it seems senseless to tie compensation or taxation (for those which can not be corrected) to the distortion. For if the distortions are fixed, a simple export subsidy can be given to those exports with low DRC while high DRC goods are discouraged. The DRC of exports will be measured taking the distortions into account, but the level of the subsidy (or tax) on each export need not have any particular relation to the distortions per se. Rather they need only equate the DRC (given the distortions) of each export to the shadow price of foreign exchange. Under this system no distortions are corrected, but they do influence the selections of efficient exports. The export subsidies are based solely on the overall DRCs and will also therefore include compensation for the effects of exchange rate overvaluation and tariffs (as required by the second, nondevaluation alternative) as well as for the effects of domestic distortions. The inferiority of

this policy to actually correcting the distortions is obvious. But correction will not generally be possible until the GOI looks beyond exports and at the economy as a whole.

Normally, policies dependent upon administrative selection, such as the alternative policies suggested above, are to be avoided since they can be only as good as the bureaucracy which administers them. In many cases the administration can become loose and capricious while in others it can become so strict and rule-bound as to loose the flexibility which is normally required. And all administrative procedures tend to suffer from abnormal delays. Yet, the alternative incentives recommended here are more administratively simple than the present Indian export-promotion system and the GOI bureaucracy has shown itself capable, at times, of greater feats. More importantly, the criteria for administrative selection is clear and unambiguous: subsidies should be given and imports allowed so as to equate the DRC of all exports.

It is properly argued that LDCs should not always take the rest of the world as given but should attempt to take a more active role in determining the future of their exports. In this light we should finally mention export incentives which do not depend upon static considerations but which are designed to change comparative advantage. Such incentives are market-development subsidies and, more generally, assistance to "infant exports." Such assistance is justified if the present value of resources expended on and by the infant export, divided by the present value of its expected earnings, is less than the domestic resource cost of the foreign exchange earned by presently efficient exports. The rules are simple, yet to play the game is difficult. The accurate determination of future export earnings, resource costs and the date of maturity is difficult. In addition,

the future of presently efficient exports is not always known with precision and risk factors must be included in the analysis. This aspect of export incentives is the most complex, but it may also be the most important in the long run. Its treatment, however, is left to others.

NOTES

[1]For a discussion of this concept and the closely related effective Rate of Protection concept, see Krueger (1972), Bruno (1972), and Staelin (1972_a).

[2]It could be argued that Indian steel is produced at a cost under the relatively high import price. Yet the cost is surely not down to the price of European producers which is the subsidized Green Form price. Raw plastics, on the other hand, can not even be said to have a resource cost as low as imports, and certainly not as low as the Green Form price. The domestic price of raw plastics is up to three times the import price, c.i.f., and production of raw plastics in India is acknowledged to be highly inefficient.

[3]Comparative costs should govern world trade. However, there are those who look only at absolute costs as seen in the following statement, "It is not a question of how much margin there is between domestic interest rates and those for export credit. It is a question of the absolute rate of interest...." (NCAER [1969], p. 56).

[4]Indian exporters argue that in order to export many goods they must offer cheap supplier credits. This may be true. Yet for short-term credits the implied subsidy is very small and for long-term credits India should consider seriously whether it should be in the business of making long-term loans to foreigners, often at rates below those paid by India herself.

[5]Indications are that railway transport is presently underpriced and that its use should therefore not be subsidized. The heavily overcrowded condition of the rails and the declining profits of the Indian

Railways would indicate that prices are too low. Bhagwati and Desai also indicate that the price of rail services is too low, although the study to which they refer is quite dated (see Bhagwati and Desai [1970], p. 405).

[6]When distortions are compensated but not cured, the law of the second-best implies that the economy will not necessarily be better off. Any incentive structure that deals only with exports is open to this criticism and the suggestions presented in this article are not exempt. However, this points to the pressing need for the GOI to look at exports as an extention of the domestic economy and not treat them in isolation. Yet in an effort to be "realistic" we too have (with this and other protests) constrained ourselves to treat export policies in isolation.

[7]For a lengthy documentation of this point see Bhagwati and Desai (1970), Chapters 12-14.

[8]The infant-industry argument of subsidizing small-scale industry so that it might grow as its markets are developed, should not be confused with this one. We are here speaking of policies which will never allow small-scale industries to grow.

[9]It might also be mentioned that the requirement of a minimum export percentage rather than an absolute amount, increases the required export price for the same level of exports. See Staelin (1971), pp. 278-285.

[10]If there were no domestic distortions and if import-supply elasticities were infinite, and ignoring general equilibrium problems, a uniform import tariff would be the correct policy. Of course, a uniform export subsidy would also be called for under these conditions and the result would be the Lerner solution of uniform and equal import tariffs and export subsidies.

[11]The criteria for choosing exports and the mix of imported and domestic inputs are interdependent and are discussed more fully in Staelin (1971), pp. 351-357.

[12]Such an approach is presented in Staelin (1972b).

[13]This neglects general equilibrium considerations. See Staelin (1971), pp. 351-357.

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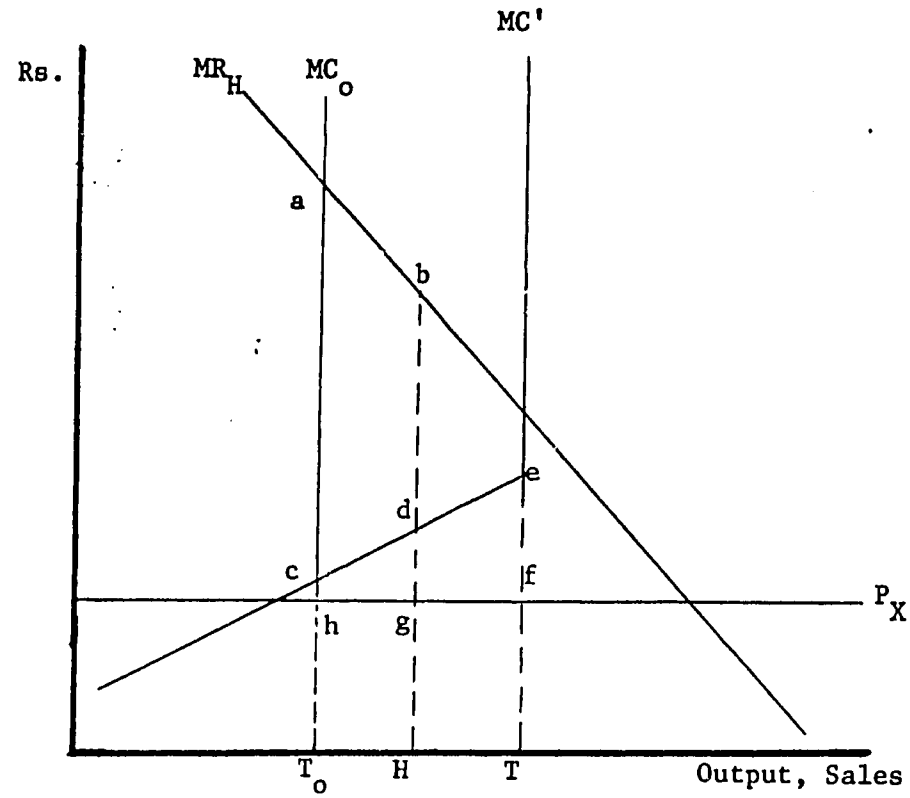

Figure 1-- Impact of the expansion-licensing incentive

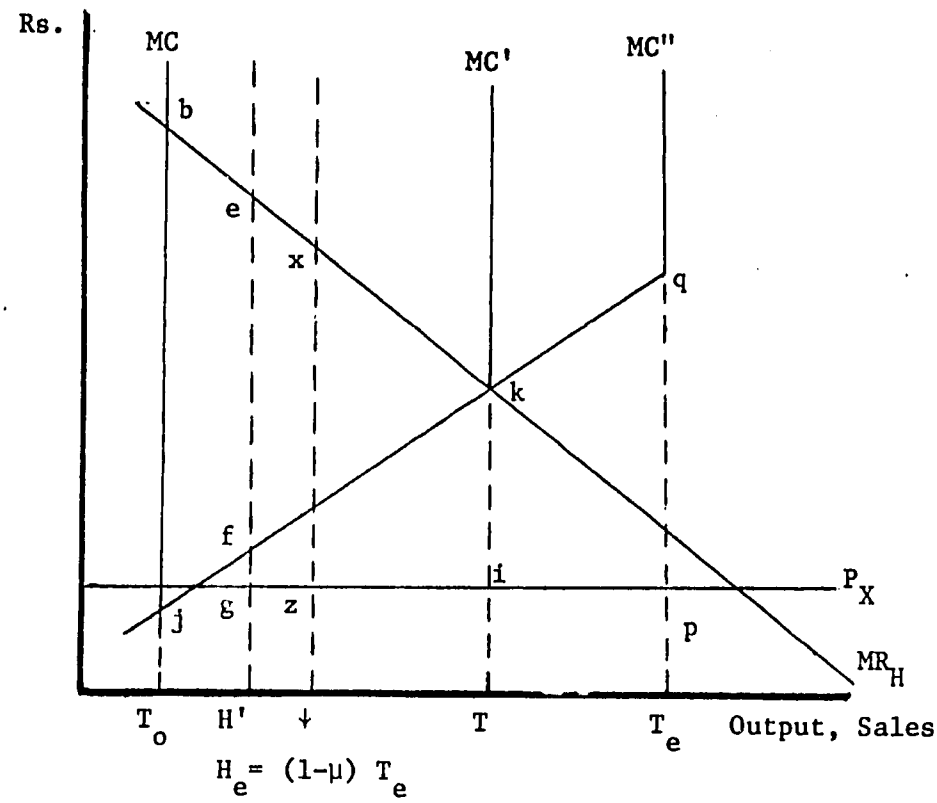

Figure 2-- Over-capacity resulting from the expansion-licensing incentive

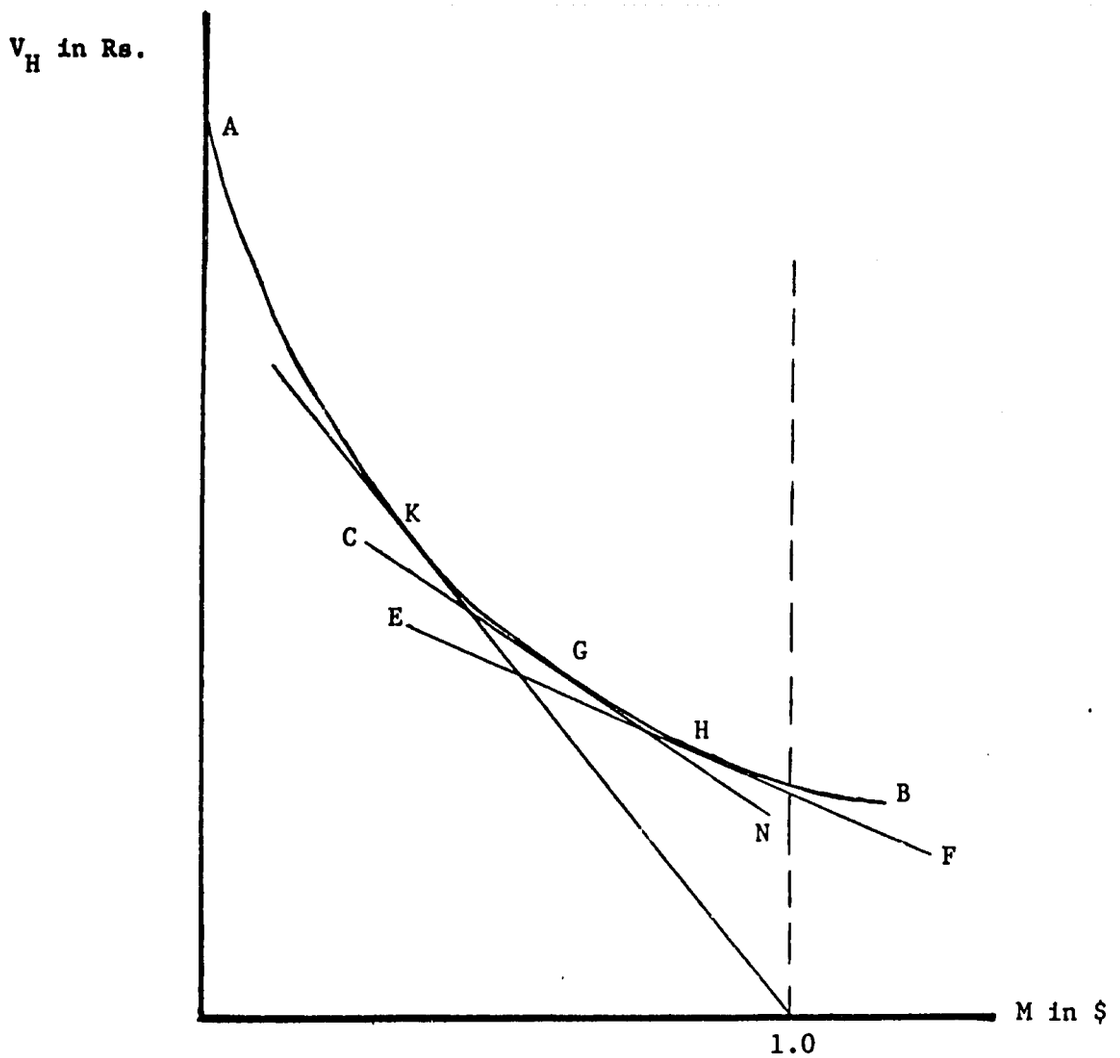

Figure 3-- Continuous Substitution of Imports for Domestic Value Added