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Protection and Economic Development

By

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PROTECTION AND ECONOMIC DEVELOPMENT

by
SYED NAWAB HAIDER FAQVI*

It is proposed in this paper to investigate, at a theoretical level, the nature of the relationship between commercial policy and the allocation of domestic resources, and evaluate the relative effectiveness of the former in influencing the latter, as compared with the other policy instruments available to the government.

Tariffs, quotas and other import restrictions have been suggested in some writings on development policy and have actually been used by governments as the primary policy instruments to initiate and accelerate economic development. One of the most common economic argument for protection, at the theoretical level, has been that, if the allocation of investment resources among alternative opportunities is not pareto-optimal because of a divergence between private and social costs and benefits, free trade will lower the country's welfare by comparison with an ideal resource-allocation policy. Such a divergence may be caused by external economics (or diseconomies) in consumption or production or by the presence of monopoly elements in domestic production or it may be due to a wage-differential between agriculture and industry, or

"disguised" unemployment in the rural sector (The argument, will

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the referred to hereinafter as $\angle$ welfare-economic case for protection). The other basic economic argument for protection is that, because of a wide differential between the private rate of discount and the social rate of discount, free-trade policy may lead to a sub-optimal allocation of domestic resources. (This will be referred to hereinafter as the "growth" case for protection^{1/}).

The main contention of this paper is that when "distortions", due to whatever reason, occur in domestic production, protection will fail to remove them; instead a policy of taxes and subsidies on selected lines of production will do the job.^{2/} The main source of error in the protectionist arguments is that, when considering the problem of choosing the best policy instrument to achieve the desired investment pattern, the range of policy alternatives has been limited to policies influencing foreign trade only—that is, to a positive tariff, or a negative tariff (subsidy) or a zero tariff (free trade). This limitation on the range of alternatives has obscured the point that, in a given situation, the best policy instrument may fall outside this range. The range of alternatives has to be expanded to include the whole spectrum of policy instruments available to policy-makers.

1/ For a convenient summary of both the "welfare" and the "growth" arguments for protection see, My int $\angle$ 31 $\angle$. However, my main sources of inspiration are Meade $\angle$ 28 $\angle$, Bhagwati and Rama Swami $\angle$ 5 $\angle$ and Harry Johnson $\angle$ 16 $\angle$. Johnson's recent contribution $\angle$ 18 $\angle$ became available to me after I had written the original version. However, it helped me considerably in clarifying some important points.

2/ This statement is subject to one important qualification: it is possible to get the effect of a tax on industry A, by subsidizing industries B, C, D,

In general, when considering the problems of the optimization of trade and the maximization of domestic production, it must be borne in mind that, although in a general-equilibrium framework each policy instrument has some influence on every possible "target", yet to each "target" there corresponds a specific policy instrument (or a combination of policy instruments) that is optimal.^{3/} Such an approach to economic policy-making may not be applicable in very underdeveloped countries, where fiscal and other policy instruments are too "weak". In that event protection may be the only feasible and effective policy alternative open to the government. However, in countries like Pakistan and India, where several policy instruments are available, the government must decide not only on the optimal use that can be made of a given policy instrument in different situations. It must also decide on the optimality of that policy instrument in a given situation. This latter decision forms the crux of economic policy-making.

The discussion in this paper will be divided into three sections. The first section will outline and evaluate the welfare-economic case for protection. The "growth" case will be examined in the second section, while the third section will conclude this discussion.

For the purposes of this discussion, protection is defined to cover all policies that raise domestic prices

3/ See Jan Tinbergen [33]. An extensive application of this approach to international-trade policy is contained in James E. Meade [27]; see also Chenery [10].

above world prices, both for domestic consumers and
producers.^{4/}

The Welfare-Economic Argument

Pareto-optimum conditions in a "Closed" Economy

Welfare economics is primarily concerned with specifying the necessary and sufficient conditions that maximize the community's total welfare. For a "closed" economy, these conditions are satisfied when the social marginal rate of substitution between any two goods produced or consumed or factors utilized is equal to the corresponding social marginal rate of transformation, with both equal to the common domestic price ratio. When this equality holds total welfare is maximized because consumers will then have no incentive to shift their expenditure among different commodities and producers will likewise gain nothing from any reallocation of investment among different lines of production.

It has been shown^{5/} that, given the standard "first-best" assumptions - pure and perfect competition both in the commodity market and the factor market, convexity^{6/} and the objectives to maximize profits and utility - competitive free-market forces will be sufficient to realize the above equality. This is so because, when these assumptions are satisfied, market prices of various factors reflect opportunity cost

4/ This definition of protection is basic, because it is important to distinguish between protection by import restriction (the sense in which the term is used in this paper) and protection by subsidizing domestic industries. The main distinction between these two forms of protection is that while protection by subsidy raises the domestic prices to producers only, it leaves consumers free to buy imported goods at international prices, while protection through import restriction raises domestic prices both to consumers and producers. See Harry Johnson 18/p.6

5/ For a geometrical derivation of these conditions see, F.M.Bator 27, pp.22-59. For a lucid verbal discussion, see William J. Baumol 4/.

6/ The "convexity" condition requires that returns to scale for proportional expansion of inputs be constant (or at least non-increasing), and that isoquants and indifference curves be "convex to the origin". Mathematically, "convexity" obtains if a straight line connecting any two feasible points does not anywhere pass outside the set of "feasible" points. See Bator 27 p.45.

in alternative uses, since the above assumptions rule out externalities in consumption and production or the presence of any monopoly elements. No state intervention is called for to achieve maximum welfare.

Pareto-Optimum Conditions in an "Open" Economy

In an "open" economy free trade will be sufficient to achieve social optimum if, in equilibrium, the domestic social marginal rate of substitution between any two goods or factors will equal the corresponding domestic social marginal rate of transformation and at the same time the social marginal rate of transformation through foreign trade - i.e., the rate at which imports can be obtained in international exchange for varying quantities of exports.

It may be instructive to see exactly what does this rule mean. Assume that the foreign price ratio is fixed. This implies that the foreign rate of transformation is equal to the foreign price ratio. Now we know that, assuming zero transport costs, free trade equalizes domestic and foreign price ratios. But we have already seen that domestic social marginal rate of transformation is equal, in equilibrium, to the domestic price ratio. It follows that the domestic social rate of transformation is, in equilibrium, equal to the foreign rate of transformation. It also follows that both these rates of transformation will equal the domestic social marginal rate of substitution. We have thus proved that free trade is sufficient, by itself, to maximize world welfare on the standard "first-best" assumptions.^{7/}

This reasoning underlies the two well-known propositions in the welfare theory of international trade that (a) free trade is superior to no trade, and (b) restricted trade is superior to no trade.^{8/}

^{7/} In an "Open" economy it is also necessary to preclude any international external effects in production and consumption. For a fine discussion of this topic see Graff ^{12/}.

^{8/} The first proposition was demonstrated by P.A. Samuelson ^{34/}. The second proposition was demonstrated by M.C. Ken ^{20/}. For a detailed discussion of this point see, J. Bhagwati ^{6/}, and also Gottfried Haberster ^{13/}.

Departures from the Pareto Optimum

However, it has been noted in the literature on welfare economics that external economies (and diseconomies) in domestic production, monopoly in the product market or in foreign trade, factor-price rigidities, increasing returns to scale and inter-sectoral wage-price differential will prevent free trade from achieving the social optimum. Hence, state intervention will be required to maximize social welfare.

To see this clearly, let us note two basic things about the nature of the ideal free-trade solution under the first-best assumption referred to above. First, the classical theorem that free trade maximizes the world welfare should not be taken to mean that it will maximize each country's welfare also. In terms of the Edgeworth box diagram, what free trade does is to enable both parties to trade to land on a contract curve, which is a locus of an infinite number of points where world welfare is maximized, such that a movement away from it involves a deterioration in each party's welfare. However, free trade does not help in picking out the optimum point. In other words, what the classical theorem proves is that with free trade each country will be better off in equilibrium than in the absence of trade. It does not prove that each country's gain will be a maximum under free trade. Secondly, and this follows from the first, considering from one country's point of view, it is always profitable to move along the contract curve to the opposite end of the box. However, this necessarily involves an improvement in one country's welfare at the expense of the other country. In other words, it is not true that free ^{trade} maximizes the welfare of each country engaged in international trade in the sense that it forecloses the possibility of any movement along the contract curve. As a matter of fact, the maximum gain for one country

will be achieved when the other country's gain is zero (However, the other country's gain cannot become negative since it is not possible to go outside the "box". In plain language, if the other party's gain were to be negative, it would not enter into international trade at all^{10/}.

The theory of optimum tariffs specified the precise conditions that set limits on the extent to which one country can profitably move along the contract curve to the other end of the box - that is, the extent to which one country can gain at the expense of the other country by imposing a tariff on trade. It is a well-known proposition in trade theory that so long as the foreigner's offer curve is not a straight line from the origin - that is, so long as the foreigner's reciprocal demand for a country's exports is not infinitely elastic - it is possible for one country to increase its welfare by "twisting" its offer curve, that is by imposing a tariff on its exports and imports. The tariff will be optimum when the "twisted" offer curve intersects with the other country's offer curve at a point where the indifference curve of the country imposing the tariff is tangent to the other country's offer curve^{11/}. It follows that free trade is not the best policy when a country has monopoly or monopsony power in foreign trade.

Similarly, external economies (and diseconomies) in domestic production make it impossible for private economic units to appropriate, through ordinary pricing, the full benefits emanating from their activities. Private profitability will then differ from social profitability. Free market forces will fail to achieve the social optimum in domestic production. This cleavage between private and social profitability strikes at the very roots of the

^{10/} The discussion is based on Samuelson [35/. See also Graff [12/.

^{11/} See T. de Scitovszky [36/]. It should, however, be noted that exporters must have a collective monopoly power but compete on foreign markets. If they cartelize the domestic market, only that makes the situation worse.

decentralizing efficiency of that regime of signals, rules and built-in sanctions that defines a market system. Conscious government policy is, therefore, required to reconcile this conflict between private and social interests, resulting from "market failure"^{13/}.

Domestic and Foreign-Trade "Distortions"

The common characteristic of all these forces, which disrupt or weaken the allocative efficiency of the pricing mechanism, is that they destroy the optimum-securing equality among the domestic social marginal rate of substitution, the domestic social marginal rate of transformation and foreign social marginal rate of transformation. In other words, these forces introduce "distortions" in the economy that prevent free-market forces from maximizing the community's total welfare.

External economies (or diseconomies) in domestic production, inter-sectoral wage-price differentials, monopoly in domestic product market, and other circumstances of this sort destroy the equality between the domestic social marginal rate of substitution and the domestic social marginal rate of transformation. This inequality, referred to hereinafter as "domestic distortion", means that free market forces, by themselves will fail to guarantee that factors of production will be combined in optimal proportions to produce the optimal mix of goods "desired" by the society.

Similarly, if domestic exporters enjoy a monopoly in the foreign market (while in pure competition with each other in the domestic market) because the foreigners' reciprocal demand curve facing them is imperfectly elastic, the optimal equality between the domestic social marginal rates of

^{13/} This reasoning, taken by itself, is fallacious; for the mere fact that market mechanism fails does not mean that government can always be expected to do better. Hence, to justify government intervention for the attainment of specific social policy goals, it must also be shown that government can in fact do better than the market.

transformation and substitution and the foreign marginal rate of transformation will be disrupted.^{14/} This inequality, referred to hereinafter as "foreign-trade distortion", implies that a free-trade policy will cause the community's total welfare to decrease by making the country pay more, in terms of exports, for given amounts of imports than it would have, had it exploited its monopoly position.^{15/}

The Welfare-Economic Case for Protection: An Evaluation

As shown above, both domestic and foreign-trade "distortions" render free trade an inappropriate policy for maximizing social welfare. According to the conventional welfare-economic argument, protection is the "optimal" policy in both these cases.^{16/} It will be shown that this argument is fallacious. The mere fact that in a certain situation free trade cannot guarantee the optimum solution does not entitle us to conclude that protection can. All

^{14/} It should be noted that this result will hold only if exporters do not exploit the potential monopoly in foreign trade.

^{15/} The reason why free-trade policy may lead to a sub-optimal solution is easily explained. It was shown above that free-trade policy will lead to an optimal solution (i.e., the three basic equalities referred to above be satisfied) only when domestic exporters take the foreign price ratio as fixed. When foreign prices vary increased exports will normally lead to a fall in export prices; also increased imports will tend to raise the foreign prices of imports. Hence, free-trade policy will lower social marginal revenue from exports and increase social marginal costs of imports. It follows that a tax on exports and on imports set at the right rate, will increase social revenue and lower social costs. Thus a tax on foreign trade is the optimal policy in order to restore the optimum-securing string of equalities among the domestic marginal social rate of substitution, the domestic and foreign social marginal rates of transformation, when foreign prices are no longer fixed because exporters (importers) enjoy a monopoly (monopsony) power in the foreign market. This is the rationale of the optimum-tariff argument for protection, referred to above.

^{16/} For instance, see Haberler [13].

that we can validly conclude is that government intervention is called for in such cases. However, the decision on the particular form that this intervention should take will depend on a consideration of the relative effectiveness of all the policy instruments available to government. It will be shown that whereas protection is the optimal policy when distortion occurs in foreign trade, a subsidy (or tax) on domestic production is recommended instead in the case of domestic distortion. Each of these cases is separately examined below.

The Optimality Criterion

The criterion for testing the optimality of any policy instrument is its ability to remove the distortion in question without introducing any other distortion. This is fundamental; for if a policy removes one distortion at the expense of introducing another, then there is no a priori way to test its optimality. This follows from the Negative Corollary of the General Theorem of the Second Best, which informs us that "there is no a priori way to judge among various situations in which some of the Paretian conditions are fulfilled while others are not".^{17/}

We will now separately consider the case for protection for each type of distortion in the light of this criterion.

^{17/} See, Lipsey and Lancaster, [22] .

The Case for Protection: "Domestic Distortions"

Let us assume that, because of any of the causes noted above, say external economies in production, the domestic social marginal rate of substitution (which under perfect competition is equal to the domestic commodity price ratio) is unequal to the domestic social marginal rate of transformation. Let us also assume that the domestic social marginal rate of substitution is equal to the foreign social marginal rate of transformation. The foreign price ratio is also assumed to be fixed for the domestic exporters and importers.

A free-trade policy will fail to remove this "distortion" in domestic production. This is easily seen. Free trade, assuming zero transport costs, tends to equalize the domestic price ratio with the foreign price ratio. By assumption, the domestic commodity price ratio is unequal to domestic marginal social rate of transformation. Also, by assumption, the foreign price ratio is equal to the foreign marginal rate of transformation.^{18/} It follows that after the opening up of trade the domestic social marginal rate of transformation will become unequal to the foreign social marginal rate of transformation. Moreover, as before, the domestic social marginal rate of substitution will continue to be equal to the foreign social marginal rate of transformation and to deviate from the domestic social marginal rate of

^{18/} When the foreign price ratio is assumed fixed for domestic exporters and importers (either because it is in fact fixed or the country in question is too small in relation to the foreign country) it will be equal to the foreign marginal rate of transformation.

transformation. Thus free-trade policy will fail to restore the optimum-securing equality. Hence, free trade is a non-optimal policy when the distortion is domestic, according to the agreed optimality criterion.

If an import tariff is imposed to remove the domestic "distortion", and is set at exactly the right rate, domestic production will increase to the point where the domestic social marginal rate of transformation becomes equal to the foreign social marginal rate of transformation (which is equal to the foreign price ratio). However, since by assumption the domestic marginal rate of substitution was equal to the foreign marginal rate of transformation before protection, the imposition of the import tariff will now make them unequal.^{19/} Again, as protection removes one "distortion" at the expense of introducing another, protection is also a non-optimal policy, according to the agreed optimality criterion. Furthermore, as both free trade and protection are non-optimal policies, there is no a priori way of preferring one to the other.

However, a subsidy (tax) on domestic production for domestic consumption only, set at exactly the right rate will increase (decrease) it to the point where the domestic social marginal rate of transformation becomes equal to the domestic social marginal rate of substitution. Also since the subsidy (or tax), unlike import tariffs,

^{19/} This is because, unlike the free-trade case considered above, tariffs will make the foreign price ratio unequal to (higher than) the domestic price ratio. Since the domestic marginal social rate of substitution is assumed equal to the domestic price ratio, it will become unequal to the foreign marginal rate of transformation (which is assumed equal to foreign price ratio) after a protective tariff is imposed.

does nothing to disturb the pre-existing equality between domestic social marginal rate of substitution and the foreign marginal rate of transformation, the pareto-optimal string of equality is restored, signifying the maximization of total domestic welfare. It follows that the policy of subsidizing (taxing) domestic production, when domestic distortion exists, is the optimal policy, (However, note that this result depends on the assumption regarding the "neutrality" of the taxes imposed to finance the subsidy in question. The significance of this assumption is discussed in the concluding section).

This result is intuitively obvious; whereas protection encourages domestic production, it also restricts domestic consumption by raising the domestic prices of imported goods. In other words, protection imposes a "consumption cost" on the economy. On the other hand, a subsidy on domestic production encourages domestic production, but imposes no such "consumption cost". Hence, the latter policy is to be preferred to the former policy.^{20/}

(2) The Case for Protection: The "Foreign-Trade Distortion"

Now, suppose that there is no "domestic distortion" that is, the domestic social marginal rate of substitution is equal to the domestic social marginal rate of transformation. Also, suppose that, unlike the case considered above, the foreign prices of exports and imports, or of both, are no longer fixed for the country in question but vary. This may be because the country enjoys a monopoly power in the export market and a monopsony power in respect of its imports, or both. In such circumstances, as pointed out

^{20/} This is so because a tariff is simultaneously a production subsidy and a consumption tax. See Johnson [19] on this point.

above, the marginal social revenue from additional exports will normally be less than the price and the marginal social cost of additional imports will normally exceed the price. Hence domestic social marginal rates of substitution and transformation (assumed equal to each other) will differ from the foreign social marginal rate of transformation.

If a free-trade policy is pursued - that is, if exporters and importers are not allowed to exploit their monopoly and monopsony power respectively - country's total welfare will not be maximized even though world's welfare is maximized. Thus under free trade the domestic social marginal rates of transformation and substitution (equal to each other) will continue to differ from the foreign social marginal rate of transformation. The free-trade solution will, therefore, be non-optimal.

Unlike the previous case where "distortion" was domestic, if distortion occurs in foreign trade a subsidy on domestic production (for domestic consumption only) will equalize the domestic social marginal rate of substitution and the foreign social marginal rate of transformation but will disrupt the pre-existing equality between domestic social marginal rate of substitution and the domestic social marginal rate of transformation.^{21/} Hence, according to the optimality criterion noted above, both these policies are non-optimal, as they remove one "distortion" at the expense of introducing another. Also, there is no a priori way of choosing between them; for it is like choosing "between the devil and the deep blue sea."

^{21/} The reason for this inequality is that a subsidy on domestic production will raise domestic prices to domestic producers only. This higher price, while equal to the domestic marginal social rate of transformation, will not be equal to the domestic marginal rate of substitution. The two rates will, therefore, not be equal to the common price ratio, and hence unequal to each other.

A tariff on exports and on imports or on both, set at the right rate in order to exploit the potential monopoly and monopsony power, or both, that the country may enjoy over the other country will do the trick here. While it will do nothing to disturb the pre-existing equality between the domestic social marginal rates of substitution and transformation, it will restore the equality between domestic social marginal rate of transformation and the foreign social marginal rate of transformation. (Recall that the latter rate is no longer equal to the foreign price ratio since the international prices are assumed to vary). Thus an optimum tariff on exports or imports, depending on whether the country enjoys monopoly power in the export market or monopsony power with respect to its imports, will maximize country's welfare. The optimum-securing string of equalities will be restored and the community's welfare will be maximized.

The policy implication of the above discussion can now be summarized in the form of the following proposition:

Proposition 1: A subsidy (or tax) on domestic production is the optimal policy when the "distortion" is domestic; when, on the other hand, the "distortion" occurs in foreign trade, ^{22/} protection is the optimal policy. (This proposition is extended below ^{23/}).

^{22/} It may be objected that it is perhaps illegitimate to use the term "foreign-trade distortion" for the "non-exploitation of a potential monopoly position". For by the same argument an industry consisting of 100 firms, not combined in a cartel, could be considered as suffering from a "distortion" in selling, since its terms of trade could be improved if it were to combine and conspire in restraint of trade. However, even in this case, the use of the term is quite legitimate if we identify the welfare concept with the owners of 100 firms.

^{23/} For a similar conclusion See Meade [287, Bhagwati and Krishna Swami [57, Johnson has stated this result more generally [187].

This should be intuitively obvious. All this proposition says is that the choice of the optimal policy must be dictated by the type of the situation faced. It should also be noted that this proposition does not assert, for instance, that tariffs cannot be used to encourage domestic production. All it says is that a subsidy on domestic production can achieve this objective more directly and efficiently.

The Case for Protection: Distortion in Factor Use.

We now turn to an examination of arguments for protection that were considered by their authors as "dynamic" in contrast to the "static" - welfare arguments for protection considered above. It will be shown that these apparently dynamic arguments are essentially "static" and merely constitute special cases of the more general argument for protection evaluated in the last section. According to the static-welfare argument considered above, protection is the optimal policy to remove "distortion" caused by a divergence between private and social costs and benefits. The arguments for protection considered in this section differ from those examined in the previous section only in that these are based on the presence of a special type of domestic distortion - the distortion in factor use.

The main difference between these two sets of arguments lies in the importance that each attaches to the divergence between private and social costs and benefits. Whereas the static-welfare argument of the previous section regards these divergences as temporary deviations from the

optimal situation and, hence, market prices reflect, ^{24/} as a rule, opportunity costs; the arguments reviewed in this section regard these deviations to be the rule, the optimal situation being an unattainable El Dorado. ^{25/} Hence, market prices do not reflect opportunity costs. It is, however, obvious that whether it is phenomenon is temporary or permanent is a factual judgment and does not affect the conclusions that follow from the presence of this phenomenon.

There are two closely related but distinct arguments, put forward by Lewis [21_7] and Hagen [14_7], that recommended protection as the optimal policy in order to correct the domestic distortion caused by the alleged divergence between the marginal social rate of transforming agriculture into manufacturing and the market price ratio. According to Arthur Lewis [21_7], in under developed countries in which the supply of labor is unlimited in the rural sector the "shadow" wage of labour is zero because of the alleged zero marginal productivity of labour, but the market wage is positive. In other words, labour is actually paid a wage equal to its average product, which is greater than its marginal product. Lewis argues that if the comparative-cost ratios are expressed in marginal terms, instead of in ^{26/} terms of average costs, an underdeveloped agricultural

^{24/}".....roughly and as a rule, the ratios of private money costs do reflect the true social real cost ratio there are exceptions to the rule, but... the burden of proof is on those who maintain that the exceptions are persistent, large, and last but not least, practically recognizable and calculable". Haberler [13_7], pp. 237-38.

^{25/}See Chenery, [8_7] pp. 18-53.

^{26/}Comparative-cost ratios in traditional theory are expressed in terms of average cost because, under the assumption of constant costs, marginal costs equal average costs. However, it has long been recognized that, when increasing or diminishing costs prevail, the comparative-cost ratios must be expressed in terms of marginal costs.

country ought to specialize in manufacturing rather than in agriculture. But since in actual practice wages are paid according to average productivity, an under-developed country ought to protect its manufacturing industry.^{27/} But this argument is fallacious because it may be that even after the necessary correction, recommended by Lewis the country may still have a comparative advantage in agriculture. This cannot therefore be a general conclusion.

Moreover, strictly speaking, the sort of "distortion" referred to in the previous paragraph, does not necessarily justify protection. A more direct approach in such a situation will be to reduce the rural money wage or subsidize the urban money wage. Here free trade continues to be the best policy. It is true that practical expediency rules out the optimal solution, but it is important to recognize that the policy of protection is dictated by practical exigencies rather than by the "failure" of the optimal solution.

27/ "We assume that two countries can produce the same things and trade with each other. A is the country where labor is scarce, B the country where unlimited supply of labor is available in the subsistence (food) sector. Using the classical framework for comparative costs, we write that one day's labor.

in A, produces 3 food or 3 cotton manufactures;

in B, produces 2 food or 1 cotton manufactures.

This, of course, gives the wrong answer to the question, "who should specialize in which" since we have written the average instead of marginal product. We can assume that these coincide in A and also in cotton manufacture in B. Then we should write in marginal terms that one day's labour,

in A, produces 3 food or 3 cotton manufactures;

in B, produces 0 food or 1 cotton manufactures.

B should specialize in cotton manufacture and import food. In practice, however, wages will be 2 food in B and between 3 food and 6 food in A, at which level it will be "cheaper" for B to export food and import cotton. Lewis argue that to correct this divergence between private money cost and true social cost (the "shadow" wage), B should protect its textile industry. Lewis /-21-7/ p.185.

Furthermore, because of this distortion in agriculture, land gets less than its marginal productivity, while labour gets more than its marginal productivity. Hence, it might be desirable to subsidize land (if we can take "land" to include capital in agriculture).

There is yet another point about the Lewis argument that should be noted. The alleged distortion implies that the social return on capital invested in agriculture exceeds the private returns. Hence, as Johnson [18] points out, the distortion in the labour market may be offset by an opposite distortion in the capital market. The optimal policy will, then, be a subsidy on capital invested in agriculture rather than a subsidy on labour in industry.

Recently, Hagen has advanced the thesis that the observed wage - differential between agriculture and industry causes a domestic "distortion" - that is, the private profitability of transforming agriculture into manufacturing is lower than its social profitability. He attributes this differential (urban wage higher than the agricultural wage) to the "dynamic" need of the economy of transferring labour from agriculture to industry. This divergence, he argues, needs to be corrected through the protection of manufacturing. ^{28/}

Hagen's analysis is faulty. First, contrary to what Hagen claims, his analysis is essentially a special case of the welfare - static argument reviewed in the last section: the wage differential prevents market forces from attaining the Pareto-Optimum in production.

^{28/} "As a result of wage disparity, the manufacturing industry will be undersold by imports when the foreign exchanges are in equilibrium. Protection which permits such industry to exist will increase real income in the economy....." Everett Hagen [14]. A similar point of view has been presented by R.E. Baldwin [1].

Second, Hagen's argument that protection is the optimal policy to realize the pareto-optimum in production is incorrect. By a reasoning similar to that underlying proposition 1, it can be shown that the alleged divergence in the rates of transforming agriculture into an industry and the market price ratio can be more directly and effectively rectified by subsidizing, rather than protecting (as Hagen argues) manufacturing activity.

Furthermore, it should be noted that, in the case analysed by Hagen, the "distortion" is caused by an inter-sectoral wage-differential. In other words, the rate at which labour and any other factor can be substituted for each other in different lines of production at the margin is not the same. Hence, a subsidy should be given on factor-use in manufacturing rather than on total production.

This result suggests a modification of our proposition 1 as follows:-

Proposition 2: A tax (or subsidy) on factor-use is the optimal policy when "domestic distortion" is caused by inter-sectoral wage-differential. ^{29/}

The rationale of this proposition should be intuitively obvious. The wage-differential between agriculture and manufacturing, referred to by Hagen, introduces two kinds of inefficiencies in the economy. First, it adversely affects production possibilities in the economy - i.e., the domestic production-possibility curve gets "contracted". Second, as pointed out above, it causes the social marginal rate of transforming agriculture into industry to differ from the market price ratio. Now,

29/ Johnson [187 and Bhagwati and Krishnaswami [57 arrive at the same conclusion.

protection cannot remedy either of these inefficiency,
A subsidy on manufacturing will rectify the second
but will fail to rectify the first inefficiency
inefficiency/. On the other hand, a subsidy on factor-use
will rectify both the inefficiencies - that is, will
help the economy to attain the optimum optimorum and is,
therefore, the optimal policy when distortion occurs in
factor-use.

The Growth Argument

The previous discussion was conducted on "static"
assumptions. This, however, does not invalidate the
conclusions we reached there in the growth context. The
upshot of the previous argument, to put it rather
simply, is that a "direct" remedy should be preferred
to an "indirect" one, since the latter may also have unde-
sirable "side-effects". Subsidy (or tax) is to be preferred
to protection in cases where the problem is to remedy
an inefficient allocation of domestic resources, that is,
when there is distortion in domestic production, primarily
because protection is not only an uncertain remedy in
this case, but it also imposes additional "consumption cost"
on the economy that can be avoided if a direct subsidy
is given on domestic production.

However, even a subsidy on domestic production may be
inefficient if the distortion occurs in factor-use. In this
case the subsidy has to be confined to the factor in the
use of which the "distortion" occurs. It will be shown in
this section that these conclusions are valid even when
we are considering the "dynamic" arguments for protection.

As appointed out in the introductory part of this
paper, a genuine growth argument for protection should

30/ On this point see, Fritz Machlup/23/, where he argues
that the value of a theory depends on how realistic are
the conclusions that it points to, and not on the
assumptions on which it is based. Assumptions being
simplifications of reality are inevitably unrealistic.

be promised on a differential in the rate of discount applied by a private entrepreneur and b the state to certain projects. This ^{31/} may make it desirable for the state to intervene. The classic case where such differential is relevant is the infant-industry argument for protection.

But before we come to an examination of dynamic argument of this sort, let us first consider the arguments for protection advanced by Myrdal, Nurkse, Hirschman, and Fleming. ^{32/} These authors consider import restrictions as a necessary pre-condition of economic growth. The central point of these arguments is that import restrictions by creating an excess domestic demand for these goods generate powerful incentives to produce them at home. According to Myrdal, "..... import restrictions..... create a sizeable internal demand for a specific commodity, without the necessity of awaiting for the slow and difficult growth of the entire economy." ^{33/} Hirschman, harping on the same theme, provides another reason why import restrictions should be used to ignite the industrialization process: "Imports still provide the safest, incontrovertible proof that the market is there... imports thus reconnoitre and map out the country's demand.... thereby bringing closer the point at which domestic production can be economically started. (Italics mine).

Hirschman

The argument is obviously fallacious. For to prove that the "market is there" is not to establish the

^{31/} The reason why we use the word "may" instead of "should" is that a project does not necessarily become socially desirable just because private investors do not consider that project profitable.

^{32/} For the relevant literature on the subject see Myrdal [32], Nurkse [33], Hirschman [15] and Fleming [26].

^{33/} Hirschman [15], p.21, Myrdal [32], p.776.

case for the domestic production of imported goods. It may well be that the country may have a long-run comparative disadvantage in producing that good domestically.

Nurkse, Lewis, Fleming, have further elaborated on this theme. One of the important obstacles bedeviling the home-production of import-substitutes is the limited size of the domestic market. As a spur for the expansion of the domestic market, these authors have suggested the simultaneous setting up of related industries,^{34/} which should provide effective demand for each other's products. It follows from this that protection must be given to a large number of related industries simultaneously.

The hidden premise on which this argument is based should however, be noted. It is that capital is available in unlimited supply. This is clearly a highly unrealistic premise, for the shortage of capital is clearly one of the central problems facing underdeveloped countries and the acceleration of the rate of capital formation is the central objective of development policy in these countries.

Two more important variations on this theme should be mentioned. It has been argued that heavier protection should be given to capital-goods industries to maximize saving and investment as well as to reduce dependence on imports. In India this view was put forward by Mahalanobis [25]. The reason why the development of heavy capital-goods industries increases savings is that, since these goods cannot be directly consumed, the consumer is forced to save--a variant of the "forced-saving" argument. Furthermore, this argument postulates that the ratio of investment is an increasing function of the level of domestic production of capital goods. Thus, protection accorded capital-goods industries will promote saving and investment.

^{34/} While Nurkse and Lewis advocate the setting up of horizontally-related industries, Hirschman and Fleming emphasize vertically-related industries. Their respective approaches to the process of economic growth are referred to as the "Balanced Growth" and "Unbalanced Growth" doctrines, a pointless distinction that has led to much useless debate, reminiscent of the wasteful controversy on the equality of saving and investment in the late 30's.

Galenson and Leibenstein^[11] have also advocated protection to increase savings. Assuming that the capitalist class does almost all the saving, a larger part of the national income should accrue to this class to maximize saving and investment (capitalists are also assumed to reinvest the major part of their income). Protection is recommended to achieve this objective. For, according to a standard theorem in international-trade theory, protection will tend to increase the relative and absolute shares of the gains from trade accruing to capital in a capital source country even if protection lowers national income by making resource allocation less efficient.^{35/}

The first point to note about these arguments is that of "misplaced orientation". The burden of these arguments is the augmentation of savings, but they focus on production allocation instead. In other words, the error is to try to get growth by choice of what to produce instead of operating on savings. This is the Mahalanobis error and springs from using a Marxian growth model. Secondly, this argument admits the possibility that tariffs may promote inefficiency in resource allocation. It is obviously hardly worthwhile to try to increase savings at the expense of efficiency in resource-use.

Further-more, the whole approach that relies on investment in heavy capital-goods industries to increase saving and investment is of doubtful validity because it is based on the unrealistic assumption that fiscal policy is totally ineffective in extracting savings or taxes from wages.^{36/} Now, quite a few of the underdeveloped countries, like Pakistan and India, have a fairly effective fiscal machineries. The problem of promoting saving and investment is, therefore, best taken care of by means of subsidies on domestic income and output. It will be a wasteful tour de force to achieve this result by setting up inefficient industries through protection - like swinging a sledge-hammer in the hope that the nut will insert itself under it!

^{35/}It will be recognized that this is a direct application of the Stolper-Sameulson Theorem: Tariffs tend to increase both the relative and the absolute reward of the country's scarce factor. See Stolper-Samuelson ^[37]7.

^{36/}Galenson and Leibenstein explicitly make this assumption.

Infant - Industry Argument for Protection

The infant-industry case has generally been accepted as providing a valid (growth) argument for protection.^{37/} Essentially the argument is that these industries, because of initial high costs of production, cannot withstand foreign competition. Protection is advocated because future benefits from the establishment of such industries are assumed to be substantial.

There is a strong case for state intervention since the private investors tend to discount future benefits at a higher cost than the society. As a result present losses weigh more heavily in their investment decisions. The private and social rates of transformation will then be different.^{38/} The net effect of the differential in the private and social rates of transformation is that private investors may find these industries unprofitable. However, on the other hand, because of the external economies that these industries generate, the establishment of such industries becomes socially desirable.

The general principles regarding optimal government intervention when the distortion is domestic are applicable here also - that is, a subsidy on domestic production is the optimal policy in order to remove the distortion caused by a differential in the private and social rates of transformation.

^{37/} However, Johnson [16, 18] and Bhagwati and Krishnaswami [5] have challenged this argument. The discussion on this section is based on the writings of these authors.

^{38/} The private and social rates of transformation may also differ because the setting up of infant industries may generate external economies that cannot be appropriated by the private investors but are socially desirable. The supply of skilled labor, for instance, may eventually increase because of the establishment of such infant industries. The infant-industry argument has sometimes been confused with the external-economies argument. However, as Johnson has pointed out [18] the two arguments are logically distinct. Whereas the external-economies argument involves a "permanent" distortion and hence permanent state intervention, the "distortion" in the infant-industry case is temporary and hence state intervention is also temporary. Moreover, the infant-industry argument is "dynamic" whereas the external-economies argument is static.

Let us consider the nature of this distortion in domestic production. The initial high domestic cost of production will cause the domestic marginal rate of transformation to differ from the foreign ^{marginal} rate of transformation. However, the domestic rate of substitution in consumption, unequal to domestic rate of transformation, will be equal to the foreign rate of transformation in production.

Now a tariff on imports may equalize the domestic and foreign rates of transformations but will disrupt the pre-existing equality between the domestic marginal rate of substitution and the foreign marginal rate of transformation. Hence protection is a sub-optimal policy. On the other hand, subsidy on domestic production, set at the right rate, will remove the inequality between the domestic ^{and} foreign social marginal rates of transformation, without disturbing the substitution and the foreign marginal rate of transformation pre-existing equality between the domestic marginal rate of/

Thus subsidy and not protection is the optimal policy to help set up the socially desirable infant industries. However, this subsidy may not be given on domestic production. If the private rate of transformation differs from the social rate of transformation because these industries require heavy investment in on-the-job training ^{of} ^{39/} labor, the subsidy should take the form of setting up of labor-training centers.

There is an important case for protection which should be now noted. ^{40/} It is that protection may lead the foreign supplier of the imported goods, who has been denied access to the domestic market, to set up manufacturing units within the country in collaboration with domestic investors. This may also be provided that this inflow of foreign capital lead to additional inflow of foreign capital, brings net gains to the country, protection may serve a useful purpose.

39/ Since the setting up of initially high-cost industries in the hope of future benefits is essentially a kind of investment, resource allocation will be socially suboptimal - i.e., a "distortion" will occur in domestic investment if these industries are not set up. See Johnson [18].

40/ See Bhagwati [7].

Summary, Qualifications and Conclusion

The preceding discussion shows that arguments for using protection as a primary instrument to remove domestic distortion, arising either from external economies, monopoly elements in production or a rural-urban wage differential, or from a differential in the social and private rates of discount, are in effect arguments for providing subsidies (or taxes) on domestic production. We have also seen that protection is a wasteful policy in order to promote saving and investment. It is pure commonsense that, instead of promoting saving by setting up possibly inefficient industries, it is far better to achieve this objective more directly by using appropriate fiscal policies. Furthermore, in developing countries, which operate large investment programs, protection is not required to exert "pressures" on private investors to invest. Also, foreign competition is, after all, only one factor influencing investment decisions; availability of investible funds, skill and entrepreneurial talents are perhaps more important. Moreover, when domestic production cannot expand readily in response to price incentives, protection may become a bottleneck both on the demand side as well as on the supply side. On the one hand, by raising the domestic prices of inputs used in domestic industries, protection will raise domestic cost of production. However under certain conditions protection, by attracting foreign investors to set up joint projects in the country, may prove beneficial.

This is not to condemn protection per se. For this is not a case for free trade either. It has been shown that, when domestic "distortion" exists, free trade is not the optimal policy. What in effect has been argued is that, although the "failure" of the free-trade solution because of domestic distortion does/constitute a case for state intervention, it does not follow that this should necessarily take the form of protection. The form that this intervention takes should rather be decided by a comparison of all the alternative policy instruments available to the government.

It is just a question of the relativity of the various available policy instruments with respect to the social policy goals.

The reason why protection turned out to be an inferior policy instrument in our discussion is that it was considered in relation to problems that could be best taken care of by other policy instruments. Of course, our conclusions would have been of a completely "academic" interest if a country were so underdeveloped that it had no other policy instrument, except protection, "strong" enough to do the job. Moreover, in such a case protection as a policy instrument may not have so many defects - that is, it may be equal to a "general" tax. It appears that it is some such economy (most African countries will fall in this group) that economists, who advocate protection, may have conjured up when writing about these problems. Our discussion is not a criticism of their judgement, but it only warns the reader that these arguments should not be accepted uncritically in the context of countries like Pakistan and India, where other equally strong policy instruments are also available to the government. In these countries suitable tax-cum-subsidy policies (or investment policies) influence domestic production more directly. This, however, does not preclude the imposition of import taxes as a part of the tax program instituted to finance subsidies.

There are two very important issues that we have not discussed so far.

The first question relates to the cost of financing the subsidy. In arguing that optimal government intervention to remove domestic distortion should take the form of subsidies (or taxes) on production or on factor-use, we made the implicit assumption that subsidies do not impose a cost on the economy. Subsidies may have to be financed through additional taxation. No doubt protection also involves a cost, but these costs are not visible. Thus, if only for political reasons, governments may use protection instead of giving subsidies. However, this argument is fallacious because the effect of a subsidy to a

particular industry can also be secured by taxing other industries more heavily; or alternatively by exempting from tax the industry in question, while retaining taxes on other industries.

The cost of financing the subsidy, however, raises deeper issues regarding the validity of our argument. This is the question of the "neutrality" of taxes and subsidies with respect to its effects on the allocation of domestic resources. Suppose a "partial" excise tax is levied. It is well known that such a tax imposes an "excess burden"^{41/} on the economy because it enters as a wedge between the price paid and the price received, thereby destroying the equality either between cost of production and the gross price paid by the consumer in the product market, or the equality between cost of factor purchase and the proceeds from factor sales in the factor market. The resulting changes in prices may lead to substitutions in the purchase (or sale) of products and factors. As a result, the cost of public services to the public may be greater than it would have been if taxes were raised in a manner not causing the two sorts of interferences in the allocation mechanism referred to above. Thus partial excise taxes, imposed to finance the subsidy, may themselves introduce distortions in the form of an "excess burden" (defined in the previous sentence). If it were not possible to levy taxes to finance production subsidies without imposing an "excess burden" on the economy then, according to the General Theorem of the Second Best, there would have been no a priori reason to prefer a subsidy over protection, for both remove a set of "distortions" at the expense of introducing another.

However, this objection applies only to a "partial" excise tax. A truly "general"^{42/} tax is free from this objection.

41/ For a discussion of the "excess burden" imposed by excise taxes see Musgrave [29_7].

42/ The "generality" of a tax has been defined as follows:
"A tax is made more general if its coverage is extended over a wide range of economic choices of the same type, of choices that may be substituted more or less readily such as alternative opportunities, or alternative investment outlets."
Musgrave and Peggy Richman [30_7].

Such a tax will cover all commodities that can be readily substituted for one another. Now, since imports are the most direct substitutes for domestically-produced goods, a tax on imports may be a part of the taxes imposed to finance a subsidy. In this way taxes on imports, having incidental protection effects, may form an integral part of the policy of tax-cum-subsidy on production.

It is, however, important to differentiate the present case where a tax on imports is a part of the tax policy to finance a subsidy to domestic production from the case (envisaged by protectionists) when import taxes (tariffs) are considered to be a primary instrument for encouraging the home production of import substitutes.

There is yet another related issue that we have not touched upon so far. We have advocated using several policy instruments to achieve various policy targets. This raises the question of the possibility of some conflict in the use of various policy instruments. For instance, import restrictions fall most heavily on "non-essential" consumer goods. This happens primarily because, faced with the problem of allocating limited foreign exchange among various uses, "non-essential" imports are the obvious victims. However this policy, by raising the domestic prices of these goods (assuming that the elasticity of supply of domestic import-substitutes is greater than unity), may induce greater private investment in the home-production of these goods. Yet an increased production and consumption of these goods may conflict with the plan objective of discouraging the consumption of such goods. On the other hand, liberal imports of capital goods may repel domestic investment from these areas (again assuming that home production of these goods is possible). This may conflict with the Government's policy of encouraging investment in such lines. What, then, can be done to remove this "inconsistency" in the use of policy instruments?

The usual answer has been that heavier protection should be accorded the home production of capital goods. But such a

policy can be very harmful, if the domestic production of such goods cannot be readily expanded. What should, then, be done?

My view is that in such a situation various policy instruments have to be used in an offsetting fashion, to some extent. For instance, the incentive to invest in the production of "non-essential" goods, caused by the restriction of their domestic production should be offset by increased taxes on their domestic production. And, if the government fails to do this, then "fault" is that of fiscal policy.

It follows that a consistent use of the various policy instruments does not mean that all policy instruments point in the same direction; what it should mean is that, on balance, the policy instruments should be used in such a fashion as to promote the socially optimal pattern of investment.

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