

Protection and Exports: A Theoretical Note

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Protected home market reduces incentives for exports. We theoretically examine such an assertion and argue that if tariff is the protectionary device, exactly the opposite should be true. The conventional wisdom holds for quantitative restrictions. Our discussion critically clarifies the hypothesis that Indian exports are residual.

I Introduction

In recent years a number of underdeveloped economies have been going through a process of economic liberalisation and structural change. The agenda includes, among other things, trade liberalisation as well. Apart from classical arguments for gains from free trade, it is pointed out that trade liberalisation increases the volume of exports in two different ways [Bose 1993]. First, through trade liberalisation, imported inputs going into the production of exports become cheaper which naturally stimulates exports. Secondly and perhaps more importantly, trade liberalisation creates more competition in the domestic market thereby destroying local monopolies. Therefore, a domestic producer enjoying virtual monopoly power in the domestic market through artificial barriers to international trade, would find selling in the domestic market much less attractive after trade liberalisation. This would induce her to export to the world market. The present paper is concerned with this second aspect of trade liberalisation. More specifically, it is concerned with the effect of relaxing import restrictions (like tariffs and quotas) on the volume of exports.

A related issue refers to the view that with large and protected domestic markets, exporting is, for the most part, a residual activity. Domestic markets, by virtue of being large and protected, are intrinsically more profitable than international markets. Domestic producers, therefore, first meet domestic demand and then sell to the international market if any output is left over. If this view is correct, then domestic demand should have a powerful (negative) influence on exports. Riedel, Hall and Grawe (1984) show that empirically this is indeed the case with Indian export performance in the 1970s. Similar point has also been raised in Nayyar (1976) and Wolf (1982). Naturally, the policy prescription that emerges from such analyses points towards liberalisation so that the incentive to cater to the sheltered domestic market diminishes. Such an assertion seems to be flawless because it relates output

allocations according to relative profitability of domestic and international markets.

However, one is disturbed by the argument that lower tariffs would increase the exportable surplus since lower tariffs by reducing the internal price should actually increase domestic demand for the product. Although it is true that declining tariff rate reduces the gap between the domestic and foreign marginal revenue, the effect on domestic sales should reduce the exports. This point is missing in Bose (1993). We were at a loss in analytically supporting the commonly held view. This is the motivation behind this theoretical note. In this paper, we give a theoretical explanation as to why exports may be residually determined in the presence of barriers on imports. We show that relaxing import restrictions does not necessarily increase exports. We show, in particular, that if import restrictions are in the form of tariffs, then a rise in the tariff rate actually increases exports. If, on the other hand, restrictions are in the form of quotas, a relaxation of such restrictions (i.e. increasing the quota) leads to an expansion in exports. Thus, in our model, tariffs and quotas or more precisely a change in their rates have opposite effects on the volume of exports.

An interesting implication of our analysis is that a country can increase its exports (i.e. dump its goods on the world market) by increasing its tariff on imports. An increase in tariff increases the domestic price and therefore reduces domestic demand. If exports are residual, as is indeed the case in our model, this reduction in domestic demand increases exports. Thus import tariffs can act as a dumping device for exports. In case of quantitative restrictions exactly opposite is true supporting the conventional wisdom. The next section contains a diagrammatic proof of our conjecture. We provide some concluding remarks in the last section.

II Discriminating Monopolist and Exports

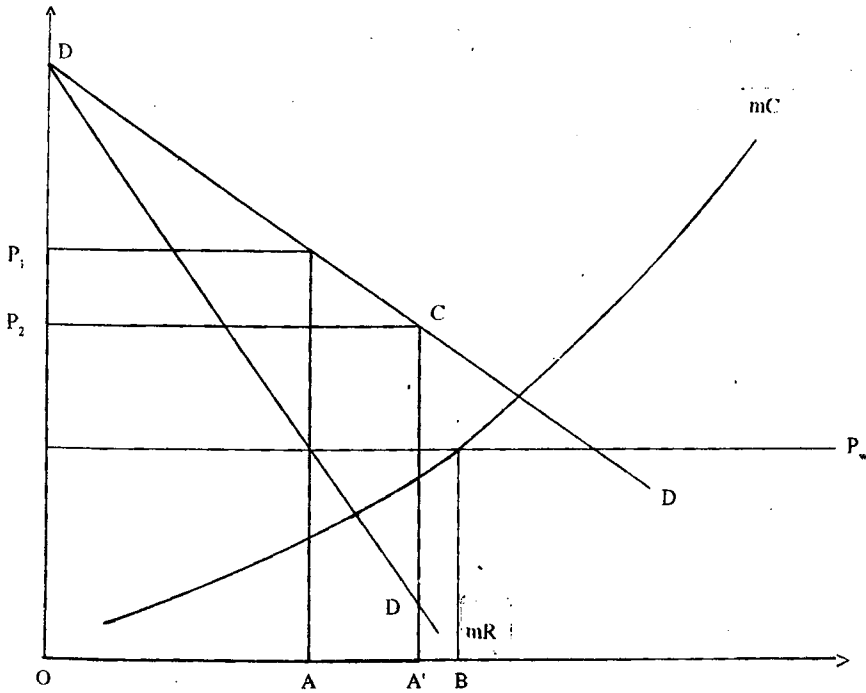
Consider a case where there is a monopolist which faces P_w as the world price of its

product, DD as the domestic demand, mR as the domestic marginal revenue and mC as the marginal cost of production. Suppose that the monopolist can practice price-discrimination and the home market is protected by a tariff. Figure 1 suggests that the profit maximising domestic price will be given by P_1 at which OA amount would be sold in the domestic market and AB amount would be exported. The existing tariff rate t is such that $P_w + t > p_1$. It is evident that AB , the amount of exports, is determined as a residual. Now, suppose t is reduced to t' , so that $P_w + t' = P_2 < P_1$. This must increase domestic sales up to OA' and reduce exports to $A'B$. It is clear that lower tariff has reduced exports.

Figure 2 describes a scenario where there is a quota on imports. Hence, DD is presented as a quota-adjusted demand curve such that the true demand curve is parallel to DD and lies to its right. The initial equilibrium is again characterised by AB amount of exports. Suppose the amount of quota is increased which is similar to a policy of trade liberalisation through tariff reduction. This would imply a downward parallel shift in DD increasing exports to $A'B$. Hence, trade liberalisation in the form of relaxing quantitative restriction should promote exports. This also suggests that tariff and quota are non-equivalent in terms of their effects on exports.

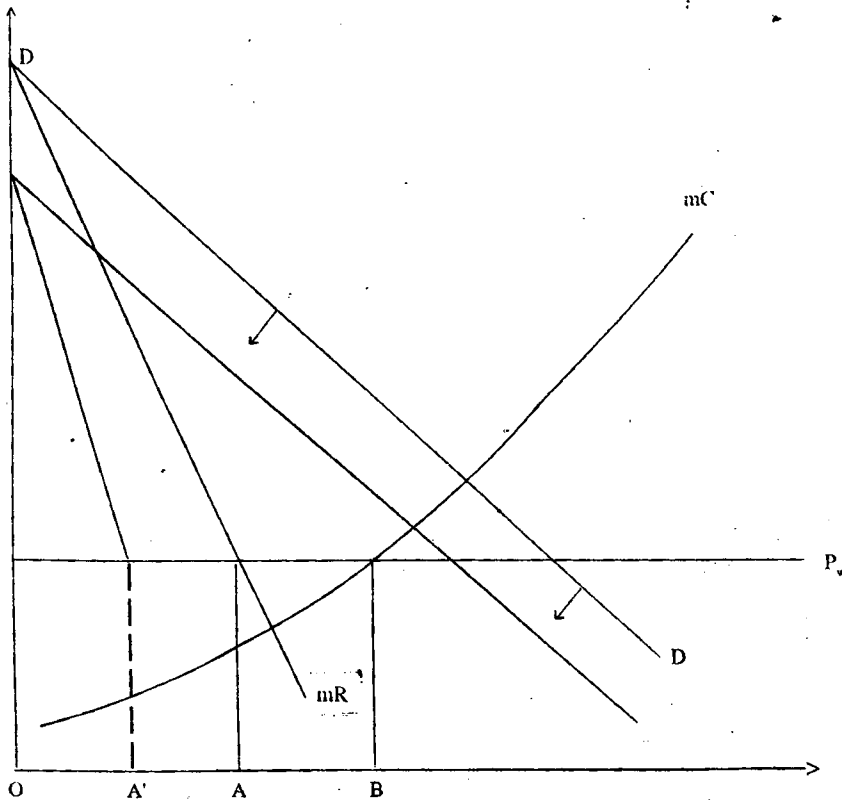
The intuition behind this result is fairly clear. A lower tariff increases the effective size of the domestic market. With production held fixed, i.e. being determined by $P_w = mC$, exports must fall. With increasing quota, the whole demand curve shift to the left, domestic sales fall and exports move up. In our example with the tariff the equilibrium level of imports is zero. However, this is not necessary for the result to hold. One can build up a framework following Marjit and Kabiraj (1992) to argue that with uneven distribution of income and an established foreign substitute, a decline in tariff may increase imports and the size of the local industry simultaneously. This would definitely reduce the exports of the domestic brand.

FIGURE 1: TARIFF



Note that CD is the discontinuous stretch in the domestic mR curve.

FIGURE 2: QUOTA



III Concluding Remarks

The purpose of this note has been to analytically re-examine the hypothesis that the exports are residual. The casual remark

of protection as export-deterrent is verified in terms of a simple theoretical framework. We have shown why such observations need careful analysis. As a theoretical exercise it is interesting because normally we tend to associate tariffs and quotas with

imports. They can very well be strategies to promote exports. An interesting example is the Japanese case where home-made automobiles cost much less in a foreign country say in the US than in Japan. Greater production may actually restrict the size of the domestic market enabling Japan to export.

However, one should remember that our analysis or for that matter any analysis dealing with the particular issue does not claim that across the board export-promotion is always the first-best strategy. We do not discuss the normative aspects here because our purpose has been to focus on the positive point of the problem.

It should be noted that a liberal trade policy by lowering profits from a particular protected venture can make other hitherto unexploited export projects relatively profitable. In that case new products or line of comparative-advantage might emerge. Moreover, imported inputs can be made cheaper to promote import-intensive exports. We are aware of such a role of liberal commercial policy. But the basic point that a lower tariff will not benefit existing exports of the same product remains valid.

Finally a word of caution against the empirical method often used to prove the residual nature of exports. As in Riedel, Hall and Grawe (1984), export-output ratio is usually regressed on domestic-demand output ratio to prove the negative relationship between the two. It is obvious that whenever domestic demand will increase exports will fall and vice versa given the level of production. This is an accounting relationship. For a valid econometric treatment one needs to test for the underlying market-structure and the decision-making process which treats exports as residual.

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