

EXPORT TAX REBATES AND WELFARE

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I. The paper explores the welfare implications of a fiscal policy for trade expansion which is widely used by many countries. The preferential taxation of exports and of factors employed in their production can be regarded as a move towards the destination principle of taxation, but an imperfect and biased one, increasing the volume of trade and often reducing economic welfare. The present analysis is an extension of the relevant theory of trade and distortions in the field of fiscal incentives for trade (export) expansion, (CORDEN, 1974).

International agreements concerning the free flow of goods and the movement of factors of production brought about a relaxation in the use of trade barriers and controls, but many countries have instead introduced or extended fiscal measures resulting in protective effects similar to those of trade restrictions. It can be argued, however, that in some cases the replacement of tariffs by fiscal measures is intentional, since a target production mix can be achieved by a tax policy without the concurrent consumption costs of trade intervention, (HUFBAUER, 1975).

Border tax adjustments create problems when they are not general and, hence, they affect the competitive position of domestic producers vis-a-vis foreign producers, that is they interfere with international specialisation, (JOHNSON and KRAUSS, 1970).

The problems arising from preferential taxation of exports differ, therefore, from those problems which result from border tax adjustments that are applied to both exports and imports and are equivalent to a change in the exchange rate. Preferential taxation of exports affects only the credit side of the balance of payments and it can have effects on domestic factor prices and the allocation of resources.

Under certain assumptions, optimality in free international trade is achieved (for any pair of goods) when the marginal rate of transformation in domestic production (DRT), the marginal rate of substitution in domestic consumption (DRS), and the foreign rate of transformation (FRT, i.e. the international price in the competitive market) are equalised. Taxes in product markets violate the first order marginal conditions for Pareto optimality if they distort pre-tax relative prices, e.g. if they are not general. Discriminating tax treatment of factors employed in the production of exportables causes factor-price differential and interferes with optimality in production. In

the following, we begin the analysis by examining briefly the effects of policy-initiated tax distortions in the factor markets. Further, we assume that a set of indirect taxes, such as manufacturers' excise taxes, is placed on the production (output) of two commodities and that tax concessions, exclusively in the form of tax rebates on exports, are granted to traders.

II. A distortion in factor markets, such as a stable factor-price differential between uses, introduces inefficiencies in the system and as a result the transformation curve shrinks towards the origin, except at the points of complete specialisation. The preferential taxation of export profits discriminates between production and sales in the domestic market and production for exports (and in a more general framework between exported goods and non-exported/non traded goods), and therefore it creates distortions in factor markets. From the international taxation point of view the policy constitutes a move towards the destination border tax adjustment for the corporate profits tax, but since the size of the tax concession usually varies among countries and among products the move is imperfect and arbitrary.¹ This policy is designed to correct balance of payments disequilibria and, in the longer-run, to induce investment and to restructure production. It usually succeeds in expanding exports, but its effects on production and welfare render it suboptimal. In a wider framework tax discrimination may occur not only between industries within the same country, but also between exporting industries of different countries, which in practice is not unusual. If this is the case, the tax systems by their horizontal inequity induce international reallocation of investment. Thus, relatively substantial, preferential taxation of export profits, may, *ceteris paribus*, attract foreign investment (KARAGEORGAS, 1973), and change the endowment of factors of production and the pattern of production and trade of a country's economy. The effects of this tax-induced process will be similar to those of export-biased growth of an economy.

It is assumed that taxes on the factors of production exist, but they are not distorting. These taxes on one of the factors are rebated when the product is exported, so that differentials are established, e.g. when rebates of export taxes on capital-profits are introduced. Assuming that the country exports the capital intensive good, the policy of tax rebates on profits from exports will not alter the existing trade pattern. However, the production of exportables will expand, while the production of importables will contract, and more capital and labour will be attracted in the exportables industry, until the returns to capital in the imports competing industry are equalised with the returns to capital in the exportables industry. Therefore, prices in the domestic market will rise in such a way that returns to capital (after tax) from domestic sales equal the returns to capital from the untaxed exports. Similar considera-

1. In some cases profits from exports are not taxed at all (e.g. profits from exports of manufactures from Ireland), some times by escaping to tax havens.

tions will apply to the wage rate, but eventually the share of labour in the national income will decline.

As a result of this process of readjustment a small pricetaker country will be completely specialised in production. On the other hand, if the country initially exported the labour intensive good the policy of rebating taxes to capital could reverse the existing factor intensities with important implications on production, trade and the distribution of national income. Nevertheless, the policy induces trade expansion by strengthening the original pattern of trade. Optimisation within the constraints imposed by the new tax structure will be achieved, but this situation will be rendered as suboptimal if it is compared to the previous situation of laissez-faire and unconstrained welfare maximisation. Theoretically, variations in the degree of preference for production of exportables and manipulations of taxes to pursue this end could generate a family of contract curves and transformation curves bordered by the possibility of complete specialisation in production and exports.

III. For the analysis of the effects of export tax rebates it is assumed that the country produces the goods X and M with two factors of production, capital and labour, and that it has no appreciable influence on its terms of trade. We also assume the absence of distortions in factor markets and full employment; therefore, the production point will be on the optimum production possibility curve. In general, the following situations are possible: a) The tax is imposed on both goods X and M and it is not distortive. A policy of export tax rebates will create distortions. b) The tax is already distortive: i) against the exportable good X. A policy of export tax rebates will reduce the distortions. ii) against the importable good M. A policy of export tax rebates will enhance the distortion. We assume in the following that the country's true comparative advantage lies in X which the closed economy is under-producing as a consequence of the tax structure, over-producing the importable commodity M. As a result of the divergence between consumers' prices and social opportunity cost, the country will either trade internationally at a suboptimal level, or not trade, if the resulting autarkic state relative price, inclusive of the tax, is equal to the international price. The third alternative is that the country will specialise in the production and exports of the wrong commodity, (JOHNSON, 1965).

Assuming that opportunity to trade moves prices in favour of the exportable commodity, trade will increase the country's welfare. For the closed economy situation we have $FRT \neq DRS \neq DRT$. International trade with the tax distortion equalises the international prices and narrows the gap between foreign and domestic rates of transformation by inducing production of the exportable, so that $FRT = DRS \neq DRT$. This case is illustrated in Figure 1, where product M is shown along the horizontal axis and product X along the vertical axis. It is assumed that a map of community indifference curves exists and remains unaltered on the assumption that the given income distribution is maintained by an independent policy. There is non-specialisation in production and consumption.

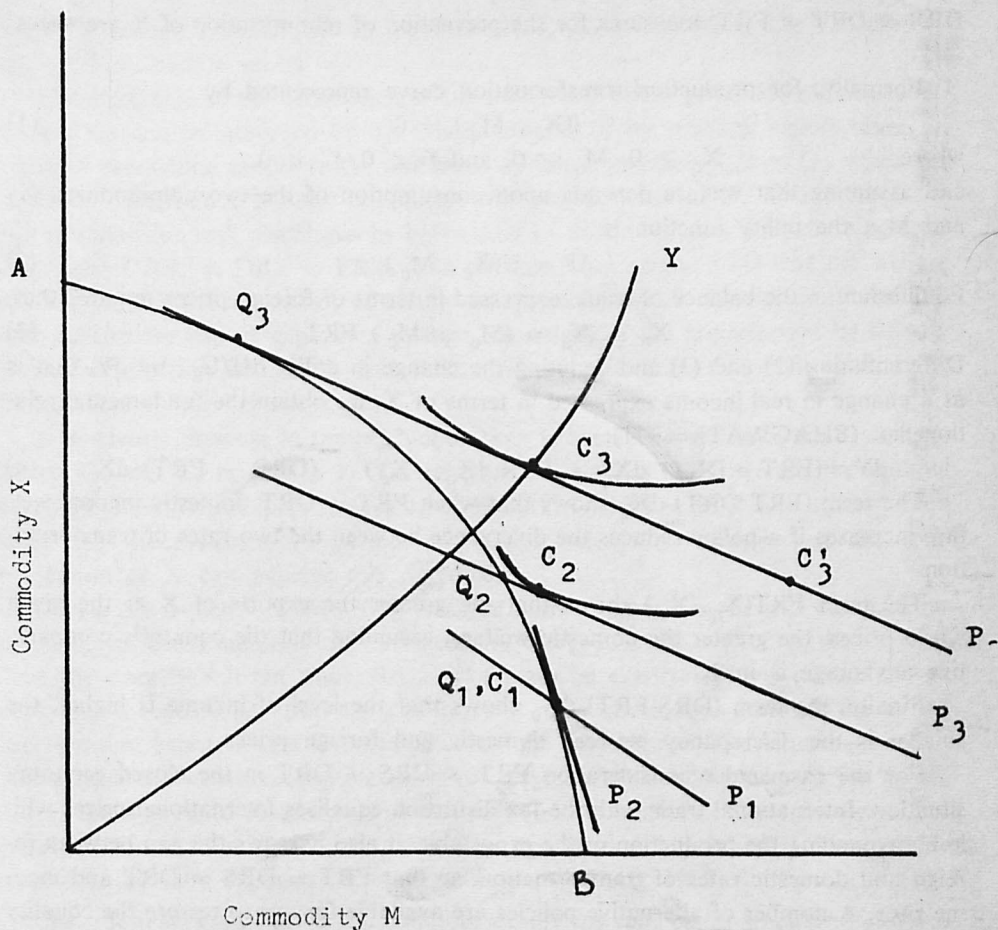


FIGURE 1

In the closed economy with distorting taxes the consumer's price P_1 and producer's price P_2 differ by the production tax at the production and consumption equilibrium points Q_1, C_1 . At the international price ratio P_3 production moves to Q_2 and consumption to C_2 , the country producing more of the commodity in which she has the comparative advantage. The country gains in both her consumption and her production by this trade-induced change, but due to the tax distortion, this situation is suboptimal since the country is producing and trading less X for M than she would have attained under free trade and undistorted prices. Export tax rebating (or an equivalent export subsidy) increases the production of the exportable under given domestic consumption of it. In Figure 1 production after the application of the policy of export tax rebates will move to the free trade production. Point Q_3 and consumption to C_3' , instead of the optimum consumption point C_3 . Since under this situation

$DRS \neq DRT = FRT$, measures for the prevention of reimportation of X are necessary.

Formally, for production transformation curve represented by

$$f(X_q, M_q) = 0 \quad (1)$$

where $X_q \geq 0, M_q \geq 0$, and $f' < 0, f'' < 0$,

and assuming that welfare depends upon consumption of the two commodities, X_c and M_c , the utility function is

$$U = U(X_c, M_c) \quad (2)$$

Equilibrium in the balance of trade, expressed in terms of foreign prices requires that

$$X_c - X_q = (M_q - M_c) FRT \quad (3)$$

Differentiating (2) and (3) and denoting the change in utility dU/U_x , by dY , that is as a change in real income expressed in terms of X , we obtain the fundamental relationship, (BHAGWATI, 1971):

$$dY = (FRT - DRT) dX_q + FTR (X_q - X_c) + (DRS - FRT) dX_c \quad (4)$$

The term $(FRT - DRT) dX_q$ shows that when $FRT \neq DRT$ domestic income welfare increases if a policy reduces the divergence between the two rates of transformation.

The term $FRT(X_q - X_c)$ shows that the greater the exports of X at the given world prices, the greater the domestic welfare, assuming that the country's comparative advantage is in X .

Finally, the term $(DRS - FRT) dX_c$ shows that the level of income is higher, the smaller is the discrepancy between domestic and foreign prices.

For the case under consideration $FRT \neq DRS \neq DRT$ in the closed economy situation. International trade with the tax distortion equalises international prices while by expanding the production of the exportable, it also narrows the gap between foreign and domestic rates of transformation, so that $FRT = DRS \neq DRT$ and income rises. A number of alternative policies are available for use to restore the equality of the three rates. Thus, operating on DRT the equality with the other two rates can be achieved by the appropriate manipulation of the taxes, or operating on FRT and DRS , e.g. by taxes - subsidies and tariffs equality with DRT can be reached. However, the general rules of intervention for determining the first-best policy in a situation of distortions are that the intervention a) must be imposed at the precise point at which the distortion occurs, and b) must be exactly equal to the degree of distortion, (JOHNSON, 1965).

In general, export expansion can be achieved by three methods:

1. A reduction in the domestic consumption-absorption of the exportable under given volume of production. This can be achieved by a policy which will increase the domestic price of the exportable for the domestic consumer and in this case measures must be taken to prevent reimportation. In fact, when border tax adjustments are made, the burden of tax levied on the producers of the exportable is in effect borne by the domestic consumers just as it would be the case if the tax were directly

levied on domestic consumers in the first place, (HARBERGER, 1962). Dumping can produce such a result.

2. An increase in the production of the exportable under given domestic consumption. This can be achieved by an export subsidy or by rebating export taxes. In Figure 1 production moves to the free trade optimum production point Q_3 , when one of the two alternative policies is applied, with consumption at C_3 . This method for export expansion will also have to be backed by measures that prevent reimportation, since $DRS \neq DRT = FRT$. It is obvious from equation (4) that the welfare outcome of this method is not as clearly defined as Figure 1 depicts, since the adopted policies for export expansion change the nature of the imperfection by substituting one distortion for another and, thus, turning the situation to a classical example of the second best argument.

3. A greater increase in the production than in the consumption of the exportable (points Q_3 and C_3 in Figure 1). This is from the welfare point of view the optimal method that leads to export expansion with $DRT = DRS = FRT$ and consumption along the income-consumption curve OY . A policy of subsidies on the total production of X can achieve this outcome.

If as a consequence of distorting taxes on both commodities the true comparative advantage of the country is not revealed and $DRT \neq DRS = FRT$ in the autarkic state, the country will not trade. Rebates of taxes on exportables will induce foreign trade, but the possibility that the country will move production towards the wrong direction and export M for imports of X cannot be excluded. The latter case will involve trade-induced consumption gains (or losses) and production losses (or gains), and in the aggregate possibly an overall loss for the country. If this happens, free trade is inferior to no trade and, therefore, the (tax) policy which achieves trade expansion, actually expands the welfare losses, (KEMP, 1969).

The disadvantage of using the policy of export tax rebates for trade promotion is not only that it may substitute one suboptimal situation for another with uncertain consequences, but also that it may turn an optimal situation into a suboptimal one. Maximum welfare does not necessarily imply maximum trade volume, and any policy which aims at expansion beyond the optimum volume of trade results in welfare losses.

IV. The analysis has so far shown that the policy of preferential taxation of exports usually breaks an equality, replacing an optimum situation or a given distortion by another distortion and, consequently, it does not necessarily increase welfare. Hence, for the extensive use of export tax rebates in practical policy, the following plausible explanations can be offered. First, the policy making authority is ignorant of the consequences of the policy, or it acts irrationally. Second, short-term losses are inevitable for the realization of long-term objectives, such as the planned change in the pattern of production and growth or the exploitation of the market. Third, and more convincingly, the policy of preferential taxation of exports is in the short-term

one of the easily implemented and administered methods of export promotion. Fourth, export tax rebates are used as the means for correcting an already distortive situation. But in all these cases the policy of export tax rebates can never be optimal.

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