CUSTOMS UNION AND INCOME DISTRIBUTION

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1. Introduction

The efficiency aspect of forming a customs union has been extensively discussed the publication of Viner's celebrated book in 1950.[1] The static analysis of the welfare aspect of the customs union is mainly concerned with the effect of tariff cuts on trade creation and trade diversion. By using a simple three country model, the conditions for trade creation and trade diversion are specified. The condition for trade creation is that the tariff cut induces the more efficient producers to produce, and the less efficient cease to produce but instead import the product from the former. The condition for trade diversion is that the tariff cut induces the less efficient producers to produce and the more efficient cease to produce. The 'cease to produce' can be interpreted as 'cease to export' in the trading relationship of non-member country with member countries of a customs union. This analysis of the production effect of a customs union has since been supplemented by the introduction of the consumption effect in other studies.[2]

Although there are a fair number of articles on the effect on income distribution of tariff protection, there has been little work done in specifying the effect of forming a customs union on income distribution within member countries. No attempt will be made here to define an equitable distribution of income; simply the effect on income distribution of forming a customs union will be investigated. From the outset a distinction must be made between the effect of tariff on real income and income distribution. This article will be concerned with the

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(1) J. Viner, *The Customs Union Issue* (Carnegie Endowment for International Peace, New York, 1950).

(2) For consumption effect, see, among others, J.E. Meade, *The Theory of Customs Union* (North-Holland Publishing Co., Amsterdam, 1955), F. Gehrels, "Customs Union from a Single Country Viewpoint", *Review of Economic Studies*, Vol. 24, No.63 (1956-57), pp. 61-64 and R.A. Lipsey, "The Theory of Customs Union: A General Survey", *Economic Journal*, No.70 (September 1960), pp. 496-513.

latter only. Theoretically, tariff change can affect real income without affecting the distribution of income, and vice versa. In reality, it may change both simultaneously. By income distrbution here is meant distrbution between different factors of production as is usually the case in the pure theory of international trade and not amongst different income groups as in the theory of public finance.

In order to implify the analysis we shall assume that there are only two countries, say Germany and France, two products, car and wine, and two factors of production, capital and labour. We assume that the factor supply is infinitely inelastic, that capital is intensively used for the production of cars in Germany whilst labour is intensively used for the production of vine in France, that Germany is more endowed with capital than labour whilst France is more endowed with labour than capitel, and that both conuntries remain incompletely specialised in production after the formation of a union. We shall also assume that factors are immobile between countries and that the income distribution is more closely affected as producers than as consumers, if occurred by any change in relative prices. [3]

Forming a customs union involves two different movements of tariff adjustment; one is the abolition of internal tariff and the other is the harmonisation of external tariff.

2. Effect of Internal Tariff Abolition

With certain conditons met, the imposition of tariff on import improves the tariff-imposing conuntry's terms of trade whilst the dismantlng of tariff causes deterioration in the tariff-abolishing country's terms of trade. [4] Within a member country, the owners of the relatively scarce factor factor of producion, i.e. scarce before the opening of trade, are protected by a reduction in the volume of trade. This is due to the imposition of tariff such that their gains as producers outweigh their losses from cheap imports so that they can keep the

(3) For this point, see J.E. Meade, *The Stationary Economy*(Allen & Unwin, London, 1965), p. 80.
(4) The condition being an elastic reciprocal demand, though not infinitely elastic. The Lerner condition and Metzler condition are to be excluded. For these two conditions, see H. G. Johnson, "Income Distribution, the Offer Curve, and the Effects of Tariffs", *Manchester School?* Vol.28 (September 1960), pp. 223-235. When it is inelastic, the conclusion which we derive is not entirely correct. However, this assumption of inelastic demand curve must be regarded as unlikely. For this, see C.P. Kindleberger, *International Economics* (Irwin, Inc., Honewood, 1963), p. 234.
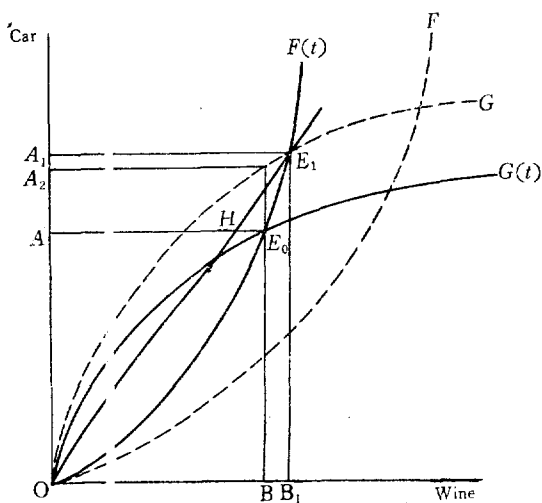
relative scarcity which might otherwise be reduced by competition from abroad through trade. [5]

Therefore the owners of the relatively scarce factor of production are anti-protected when the customs union is formed and subsequently their relative share of income in the national income would be less favourable than before the formation of customs union. This is so because the specialisation encouraged by the reduction of tariff would tend to equalise not only relative but also absolute factor returns among the different member countries. That is, the specialisation thus augmented would reduce the demand for scarce factor of production, consequently resulting in a relative decline in their share of total national income.

This is partly shown in figure 1. In the diagram, we explan the decline in the share of income in one country only, by assuming for the sake of simplicity, that there is only a unilateral reduction of tariff.

The usual offer curve is given. On the vertical axis are cars produced and traded by Germany and on the horizontal axis, wine produced and traded by France. The offer curves, $G(t)$ and $F(t)$, when tariff is imposed are as given. The offer curve under a free trade situation would be G for Germany and F for France, and these are shown by dotted curves. Two sets of offer curves reveal that the tariff rate in France is higher than in Germany. [6]

Germany's terms of trade is OB/OA but the domestic ratio of exchange is not OB/OA but OB/OA_2. After the abolition of tariff the terms of trade would be OB_1/OA_1, a deterioration in the terms of trade for Germany by HE_0/OA.

Figure 1

Internal Tariff Abolition:

Unilateral Case

(5) L A. Metzler, "Tariffs, Terms of Trade, and National Income", *Journal of Political Economy*, Vol. LVII (February/December 1949). Originally by W.F. Stolper and P.A. Samuelson in "Protection and Real Income", *Review of Economic Studies*, Vol. 9 (November 1941), pp. 58-73.
(6) Why this is so, see A. Lerner, "The Symmetry between Import and Export Taxes",

Thus after the abolition of tariff by Germany unilaterally the domestic ratio of exchange would now be OB_1/OA_1, the same as th terms of trade. Hence the protected industry, i. e. the industry where the labour intensive product (e.g. wine) is produced, would become less profitable relative to the export industry, i.e. the industry where the capital intensive product is produced. Consequently factor movement would ensue from the previously protected to the unprotected industry. Thus the reduction in tariff in one country would encourage the distribution of income in favour of that economic sector where the country has the comparative advantage over the other, and subsequently in favour of that factor of production (i.e. capital in Germany) which is more intensively engaged in that sector. [7]

So far the analysis has been concerned with the effect on distribution of a tariff cut net of transfer payments from tariff proceeds. Some attention must be given to the effect of the loss of internal tariff revenue on income distribution. At least three different assumptions can be made as regards the disposal of the tariff proceeds; one is that the government has previously spent the whole of its proceeds on the import of foreign products; the other is that the government has previously spent the whole of its proceeds on subsiding own exports; and the third is that the government has redistributed its proceeds in such a way that its effect is neutral. The last assumption is usually taken by most of the international trade theorists. As it leaves the analysis simple, we shall follow this practice; thus the effect of tariff on income distribution before and after the abolition of internal tariff would be neutral with both factors' shares hardly being affected.

So far we have been dealing, for the sake of simple analysis, with the situation where the abolition of the internal tariff was unilateral and where its effect on income distribution lay only between different factors within one country. What would be the effect on income distribution when a bilateral agreement to abolish internal tariff is made? The terms of trade for both countries after the abolition of internal tariffs depends on the elasticity of the offer curve, the pre cut tariff rate and the marginal propensity to import in each country. [8] Therefore an a priori judgement on the terms of trade after the abolition of tariff is difficult to make unless the above conditions are specified. Hower it is certain that the pre-tariff cut
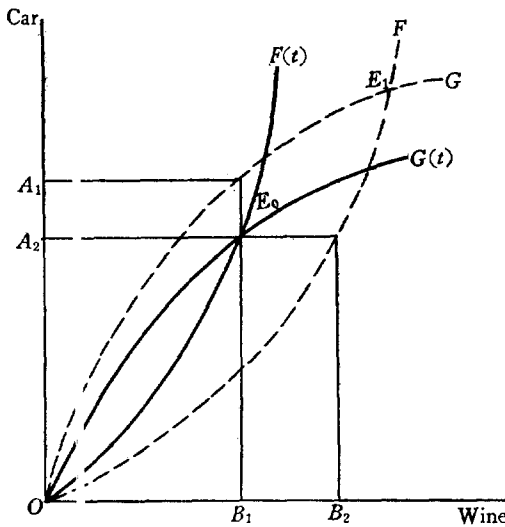
Economi a, N.S. (1936), pp. 306-313.

(7) This is the restatement of restrictive Stolper-Samuelson theorem. For detailed discussion of this restatement, see J. Bhagwati, "Protection, Real Wages and Real Incomes", *Economic Journal* (December 1959), pp. 733-748.

(8) L.A. Metzler, *op. cit.*, p. 18.

domesti price ratios for both countries would be higher than the post-tariff cut price ratios. This is shown in figure 2. The domestic price ratio for Germany before tariff cut is OB_1/OA_1, and that for France OA_2/OB_2. Both are greater than the international terms of trade before the abolition of internal tariffs, i. e. OB_1/OA_2 for Germany and OA_2/OB_1 for France. After the abolition of internal tariffs their domestic price ratios would be equalised with the newly formed international terms of trade, i. e. the slope of OE_1.

Figure 2:

Internal Tariff Abolition:

Bilateral Case

As this happens, the scarce factors in both countries would be no longer protected, resulting in the fall in the share of these groups in total national income. In our case the factor returns to capital in Germany would increase whilst the factor returns to labour would be relatively greater in France. Thus the abolition of internal tariffs distributes income in favour or the abundant factors of production in each country.

3. Effect of External Tariff Harmonisation

The above analysis is not wholly complete since the effect of external tariff harmonisation on income distribution is not included. Thus the partial effect of internal tariff abolition on income distribution must be supplemented by ascertaining the other effect of harmonising the common external tariff vis-a-vis the rest of the world.

It is likely that, following the customary procedure of adopting an average rate (as is the case n the European Economic Community), the common external tariff rate is harmonised based on the simple, unweighted average of tariff rates. The low tariff country, Germany, would increase her tariff rate vis-à-vis the rest of the world and the high tariff country, France, would lower her tariff rate. In the former country the terms of trade would improve vis-à-vis he rest of the world and its domestic price ratio would increase, resulting in prote-

ction of the scarce factor of production, labour in the example.[9] In the latter the terms of trade would deteriorate vis-à-vis the third country and its domestic price ratio would decrease, resulting in anti-protection of the scarce factor of production, capital in the example. Thus the total net effect on income distribution of forming a customs union would result in income distribution in the previously high tariff country in favour of the abundant factor of production in both cases, whilst in the previously low tariff country the effect of internal tariff cut favours the abundant factor but that of external tariff harmonisation would favour the scarce factor in sharing total income.

4. Summary

The summary of the effect on income distribution of forming a customs union between factors of production within a union is given in the following table.

Table 1

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Country	Endowments	Post-Union		
		Intra-Union	Extra-Union	Net Effect
Germany, Low Tariff	Capital(Abundant)	+	—	?
	Labour(Scarce)	—	+	?
France, HighTariff	Labour(Abundant)	+	+	+
	Capital(Scarce)	—	—	—

Notes: + sign shows the distribution of income in favour of the factor concerned, and — in disfavour.

The analysis made on the assumption that the types of products produced and traded between member countries joining a customs union are rather more complementary than competitive ensures a different intensity of use of labour and/or capital in both countries.[10] However this assumption would not completely exclude the possibilityof producing and trading competitive goods since there can be sevsral combinations of labour or capital used to produce a particular product.

A limitation of the above anlysis is the specified number of countries joining a customs union

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(9) We assume that the abundant factor in the rest of the world is land. If we assume that it is capital o labour, the result may be little complicated if not different. The different intensity in the use of factors between countries has to be assumed then.

(10) Complementarity or competitiveness are rather those of potentiality than of actuality. For this, see J.E. Meade, *The Theory of Customs Union*, pp. 107–108.

paired with the factors of production and the products traded. However, in reality, the factors of production tends to be less than the number of countries joining, and the number of products are too numerous even to be counted. A macro-approach of this sort indicates general direction but it is not appropriate to estimate the precise empirical effect from it. For this a micro-approach, studying disaggregated sectors and then summing all, is possible, though probably rather clumsy.