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IS UNILATERAL TARIFF REDUCTION PREFERABLE TO A CUSTOMS UNION? THE CURIOUS CASE OF THE MISSING FOREIGN TARIFFS; OR, BEWARE OF THE LARGE COUNTRY ASSUMPTION

by
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December, 1979
IS UNILATERAL TARIFF REDUCTION PREFERABLE TO A CUSTOMS UNION?
THE CURIOUS CASE OF THE MISSING FOREIGN TARIFFS;
OR, BEWARE OF THE LARGE COUNTRY ASSUMPTION*

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*We thank Christopher Clague, Mel Krauss, Richard Lipsey, and Arvind Panagariya for their comments.
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During the past decade and a half, an important part of the literature on customs unions has dealt with the question of whether a country might obtain the gains it would achieve from a customs union (CU) in an alternative way, by a unilateral tariff reduction (UTR). (UTR may involve a partial reduction in tariffs, or a reduction all the way to zero.) A widely-accepted conclusion (Johnson, 1965, p. 280; Cooper and Massell, 1965a, pp. 745-47; Krauss, 1972, pp. 417-419; Dauphin, 1978, Ch. 2; and Berglas, 1979, p. 329) is that UTR does indeed hold out the prospect for all the gains from customs unions--without the disadvantages--if two important simplifying assumptions are made; namely, that we ignore economies of scale and the effects of a customs union on terms of trade with third countries.\(^1\) In the words of Berglas (1979, p. 329), "if a [preferential] trade agreement does not affect the terms of trade, then it does not allow for any mutually beneficial policy opportunities which are not open to each of the member countries separately" through UTR.

If this conclusion is correct, it is extremely important, in that it undercuts the earlier literature on customs unions. The question asked by Viner in his pioneering work (1950, p. 50)--whether a customs union represents a net gain or a net loss in economic efficiency--becomes unimportant, except insofar as a customs union is based on terms-of-trade effects\(^2\) or

\(^1\)Johnson (1965, pp. 274-82) discusses a third source of mutual benefit from a customs union; namely, the existence of externalities in manufacturing.

\(^2\)On terms of trade and customs unions, see for example Arndt (1968); Arndt (1969); Krauss (1972, pp. 421-24).
economies of scale, since a customs union can be summarily rejected in favor of UTR. The UTR case would mean that, for economists, the puzzle is not to identify the efficiency gains (or losses) from a customs union, but rather to explain why countries form customs unions in the first place (Johnson, 1965, p. 270; Cooper and Massell, 1965a, p. 247; Berglas, 1979, p. 329). Indeed, in his survey of customs union theory, Krauss (1972, p. 413) identifies the problem raised by Cooper and Massell—of why countries form customs unions—as "the theoretical issue of the past decade [the 1960s] just as in the prior one the major issue, as explicitly defined by Jacob Viner (1950), was whether a customs union represented a movement towards freer trade or greater protection." The typical reply to the Cooper-Massell question is: Countries tend to form customs unions for non-economic reasons (Berglas, 1979, pp. 329-330).

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1 There has been a tendency in customs union literature, tracing back to Viner (1950, p. 47), to dismiss economies of scale as relatively unimportant (see, e.g., Krauss, 1972, p. 420). In our empirical work on North American free trade (Wonnacott and Wonnacott, 1967), we concluded that economies of scale were much more important than the "triangular" gains identified by traditional theory. Indeed, in many cases, we question how enlightening it is to study customs unions without considering economies of scale. Nevertheless, in this paper, we will stay within the traditional framework, ignoring economies of scale, since we are studying a specific theoretical issue which has arisen in the literature.

(On economies of scale and customs unions, see also Corden, 1972; and Williamson, 1971.)

2 Johnson (1965, pp. 270, 279-81) explains why customs unions may be formed for a partly political reason. Specifically, he assumes (p. 258) that each country has a "collective preference for industrial production." In a separate article (1965b) Cooper and Massell offer a similar rationale for the formation of customs unions among developing countries. Another argument for preferring a CU to UTR is that each member provides the other(s) with protection against third country imports; this may keep the demand for labor up within the CU and reduce short-run unemployment and other dislocation costs associated with a change in commercial policy.
In this paper, our contention is that the UTR literature is not correct. (We believe that the earlier question raised by Viner—of the effects of a CU on efficiency—is the most important one, although the answers suggested by Viner were not completely satisfactory, as has been pointed out by such writers as Meade, 1955; Gehrels, 1956; and Lipsey, 1957.) The UTR literature is fundamentally wrong, not in the sense of having made logical errors, but wrong in having begun from a series of assumptions—sometimes explicit and sometimes implicit—which in effect rule out the principal advantages of customs unions. Suppose, for a moment, that we ask the average politician or business executive the $64 question raised by the UTR literature: "What economic advantage can there possibly be in forming a customs union?" The probable reply would be: "To get down foreign tariffs and gain access to foreign markets." It is therefore astonishing that, in arguing the case for UTR and dismissing customs unions, Cooper and Massell make only a concluding reference to "market swapping", but conduct no analysis whatever of the elimination of tariffs by the customs union partner. While this oversight is corrected elsewhere in the literature—most explicitly Berglas (1979)—Berglas makes very strong assumptions about Country C (and about compensation between A and B) which mean that Country A cannot possibly gain from its newly-acquired access to B's market.¹ As will be explained later, these include the assumptions that Country C has no tariffs, and there are no transportation costs.

Our major contention is that, in a world in which tariffs and other obstacles to trade exist, it is meaningless to analyze the effects of freeing trade between CU members if we use the initial assumption that there are

¹In this paper, we follow the standard terminology, of two prospective customs union partners, A and B, and an outside Country, C.
no impediments to trade with outsider C. In other words, it is misleading to analyze a CU, and in particular to compare a CU and UTR, unless all countries are recognized to have tariffs to begin with. Anything else is Hamlet without the prince. In more detail, we will argue that:

1. In arguing the case for UTR, its proponents make either or both of the following assumptions (explicit or implicit):
   
   (a) That partner B's tariffs can be ignored.
   
   (b) That outsider C has no tariffs, and there are no transportation costs in trade with C.

2. If we depart from both of these assumptions, a country can achieve gains from a customs union which are not possible with UTR.

3. This conclusion, that the dominance of UTR over a CU collapses if we reject assumptions 1(a) and 1(b), holds even if we make the standard assumption that there are no gains in the terms of trade with outside Country C. Furthermore, it collapses even if we assume that the terms of trade among the members of the customs union remain unchanged as a result of the formation of the CU. (In practice, there is very little chance that the terms of trade among members will in fact remain constant. However, we shall examine the case where terms of trade within the union remain constant because this assumption occurs in parts of the literature, and also because there is some confusion over the intra-union terms of trade.)

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1 For example, Berglas (1979) makes such an assumption; or, more precisely, assumes that a country is committed to compensate a partner for any adverse change in the bilateral terms of trade.

2 Most notably, Krauss in his survey (1972, p. 417) states that Cooper and Massell assume that the home Country A is unable to affect its terms of trade because the partner B and third Country C are large. This statement is incorrect; a CU is especially likely to lead to an improvement
4. When a customs union is being established, the terms of trade is a slippery concept; we should be careful to state propositions about terms of trade precisely. For example, the assumption that A is very small, and is faced by a large B and a large C, does not mean that terms of trade can be ignored, since B's agreement to cut tariffs will affect A's terms of trade. Indeed, an important reason for A to want to get rid of B's tariff is to be able, for the first time, to trade at B's domestic terms of trade.

5. The standard assumption that A is very small compared to C is not so reasonable as it seems at first glance; in particular, it is not nearly so reasonable in a many-good world as it seems in the common 2- and 3-good models of trade theory. In fact, no outside country or group of outside countries is likely to be predominant in the pricing of all goods.

We are impressed with how complex customs union theory has become. It is difficult in much of the literature to keep even the explicit assumptions straight, and much more difficult to identify and keep track of the implicit assumptions. Indeed, since we will be arguing that the case for UTR depends on one of these implicit assumptions--that there are no impediments to trade with Country C--it is necessary to go through the arguments reasonably

in the terms of trade if the partner is a big country. See our point No. 4, above, which will be explained later with Figure 3. (Actually, Cooper and Massell didn't make this error. They assumed only that the third country is large, not the partner. This will become clear in Figure 4a below, taken directly from Cooper and Massell's Figure 1. In this diagram, C's supply curve is horizontal, while B's is not.)
slowly and explicitly. In the sections below, we will begin with a preliminary puzzle, to illustrate the intuitive implausibility of the UTR case. Second, we will use offer curves to explain the positive gains from a customs union, and illustrate the importance of tariffs and transportation costs in trade with C. But the literature on UTR has used other analytic tools. Therefore, in the third section, it is necessary to go into the main propositions in the literature within their own framework; otherwise, there is some danger that (in using a different theoretical framework) we will just be talking at cross-purposes to the other authors.

One further preliminary clarification is needed. In attacking the case that UTR offers all the gains of a customs union (except for terms of trade and economies of scale), we are not arguing that UTR never dominates a customs union. That would obviously be going too far. [For example, many countries with high tariffs could improve efficiency by UTR; and for such a country it would be easy to find a (heavily diverting) potential CU that would reduce efficiency. Therefore, upon examination of the details of the situation, we should without difficulty be able to cite examples where UTR dominates a customs union.] What we do dispute is that a general case has been made that "a more efficient allocation of resources could not be the reason why customs unions are formed" (Krauss, 1972, p. 417).

I. A PRELIMINARY PUZZLE

Before getting into the meat of the argument, let us consider an example--quite different in its details and assumptions from the literature we will criticize--which shows the implausibility of the argument that UTR will provide all the gains from a customs union, provided economies-of-scale
and terms-of-trade effects with Country C are ignored. Consider a CU that would involve all the countries of the world except Nepal. For any member such as the United States, such a CU would be essentially indistinguishable from worldwide free trade in the benefits it would provide. And any terms-of-trade effect with the third country (Nepal) would be trivial for the customs union. The UTR literature would have us believe that such a customs union would be no better than UTR. But surely something is wrong here. For any member, this CU would offer essentially the same as worldwide free trade which in turn offers something that UTR doesn't; namely, the abolition of foreign tariffs. And the abolition of foreign tariffs is a clear and unambiguous advantage. \(^1\) Somehow, somewhere, in coming to the wrong conclusion the UTR literature has made assumptions whose critical importance has gone unrecognized. Our task will be to uncover these assumptions.

II. RECIPROCAL GAINS FROM A CUSTOMS UNION, WITH TERMS OF TRADE UNCHANGED

In our example, with Nepal as outside Country C, we have eliminated the importance of terms-of-trade changes with C in a manner quite different from the UTR literature cited earlier. In order to bring our argument back toward the main body of UTR literature, we now make the more standard

\(^1\) Curiously, the comparison of UTR and customs unions led Johnson to argue that multilateral tariff reduction is no better than UTR. This argument of Johnson is discussed on pp. 18-20 below.

(On the face of it, Johnson's focus on the burden of the home tariff to the exclusion of foreign tariffs is puzzling. As Lerner (1936) has demonstrated, a 10% across-the-board import tariff is equivalent in equilibrium to an across-the-board export levy of the same height. But this in turn is equivalent to an across-the-board foreign levy on our exports, with one notable exception: the foreign government rather than the home government gets the revenue. Thus, there is a presumption that foreign tariffs create a greater burden than home tariffs of the same height.)
assumption: The customs union partners live in a world in which outsider C is not small. Indeed C is so large that its demand and supply functions appear perfectly horizontal to CU members A and B. In a two-commodity general equilibrium framework, the offer curve of C is a perfectly straight line.

In Figure 1, we derive the principal conclusion in the UTR literature (namely, that a CU offers nothing—apart from terms of trade and economies of scale—that cannot be obtained through UTR). We begin with the situation where C has no tariffs (although A and B do), and transportation costs between C and the customs union members are ignored. Not surprisingly, the offer curve of Country C—\(Q_C\)—has a dominant effect on international prices; A and B can trade any amount they like with C without affecting the relative prices given by the slope of C's offer curve. Prior to the establishment of the customs union, the offer curves of A and B are \(Q_A\) and \(Q_B\), respectively. Country B trades at point B, exporting OL of good Y in exchange for OJ of X, and Country A trades at point A, exporting OH of good X in exchange for OK of Y.

Now suppose that a customs union is formed between A and B. Their offer curves—as seen by the customs union partner—will move to the dashed curves \(Q_A\) and \(Q_B\). If the customs union has a prohibitive external tariff on good X, then equilibrium between A and B will occur at point E.

From the point of view of Country A, its move from A to E represents an improvement. Moreover, it is better than Country A can do by unilaterally eliminating its tariff and thus moving to G. But B could do better by a simple unilateral elimination of its tariffs, moving to point F. While Country A is better off at E (a customs union) than at G (unilateral
Fig. 1. Large Country C has no tariffs or transportation costs.
free trade), it has the problem of persuading B to join the customs union. If, in order to make B join, A has to compensate B for the amount by which E is inferior to F, then Country A would be better off to move unilaterally to reduce tariffs. (With standard assumptions, it can be shown that Country B's loss at E compared to F is greater than the amount by which Country A prefers E over G.) UTR dominates a customs union. Indeed, within this framework, each partner should move all the way to unilateral free trade.¹

[The country against which the terms of trade shift as a result of the customs union--Country B in our illustration--may be better or worse off as a result of a customs union (at E) as compared to original point B (depending on the shape of the offer curves). But, in either case, it will be better off with a unilateral elimination of tariffs and a move to F than it would be with a customs union at E. Furthermore, in no case will Country A be able to "bribe" B to join a customs union without itself ending at a position inferior to that obtainable through UTR.]

The main feature of this UTR argument is that C is freezing the world terms of trade at $0_C$: C will buy or sell unlimited quantities of X or Y at the relative price shown by its offer curve. Consequently, A and B have nothing collectively to gain by trading with each other, rather than trading with C. Prior to the CU, it is a matter of indifference to Country B whether it conducts OA amount of trade with Country A and the remaining AB with Country C, or whether its total trade of OB is with Country C. And a CU is not collectively beneficial for A and B, compared to non-discriminatory

¹Thus, this framework, like that of Cooper and Massell (1965a, p. 747), leaves the puzzle of why countries have tariffs in the first place.
tariff removal and trade with C; while one country (A) will prefer a CU, the other (B) will even more strongly prefer trade with C.

The question is, in the real world, do prospective members of a customs union have anything to offer one another that is not readily available from the outside world? The answer is, yes. But what? Consider the United Kingdom and Germany; what can they gain from trade with one another that they can't gain from trade with the United States? A partial answer: They may each be in position to offer the other a better price than the other could get by trading with the United States. How can that possibly be? Because, in trading (e.g.) steel for coal with one another, they don't have to pay the costs of transportation to and from the United States, nor do they have to pay U.S. tariffs. In other words, by trading with each other they can both benefit by sharing their net saving on transport costs and U.S. tariffs.\footnote{Net saving on transportation costs; that is the saving from transportation costs to the extent that they are lower between the United Kingdom and Germany than they are between Europe and America.} A major problem, therefore, with the UTR literature is that it is based on the assumption that outsider C is not only large but it has no transport costs nor tariffs. As a consequence, this literature has missed the important way in which a CU can provide mutual benefit to its members.

The case where C has transportation costs and tariffs is shown in Figure 2. With this figure, we will illustrate the point in dispute; that is, the possibility that a customs union can provide gains not possible through UTR. With the introduction of C's transportation costs and tariffs, Country C now presents not one, but rather two, offer curves. While the
Fig. 2. Large Country C, with transportation costs and tariffs
relative prices within C remain at the slope of $O_C$, the offer curves of C as seen by A and B will be either $O_1$ (if A or B purchase X with Y) or $O_2$ (if A or B purchase Y with X).

Thus C's transportation costs and tariffs drive a wedge between C's offer curves (just as a tariff drives a gap between the domestic and world price in a simple supply/demand model). If this wedge--defined by the angle $O_1$ and $O_2$--is wide enough, so that A and B trade within it [both before (at A) and after the CU (at E)], it is as though Country C did not exist. Its overwhelming dominance over A and B's trade disappears. With C "out of the picture," the question of whether the rest of the world (i.e., Countries A and B) should form a CU reduces to the standard 2-country free trade question. Thus, in this case a CU can easily be shown to be beneficial (both countries have a higher welfare at E than A). Moreover, for each country, a CU dominates unilateral free trade (A has higher welfare at E than W, while B is better off at E than W).¹

This is an illustration of Viner's trade creation² (although an even better example would be a situation where pre-union tariffs of A and B were

¹We ignore transportation costs between Countries A and B. Adding them unnecessarily complicates the analysis, without altering our conclusions (so long as the customs union is made up of geographically close members, with internal transportation costs less than those with third countries).

²In Figure 2, it may seem as though our analysis is one-sided, since this is an example of trade creation (where CU benefits are relatively easy to show) rather than of trade diversion. But, as we shall now show in Figure F-1, it is also possible that a CU will provide gains not possible through UTR in some cases of trade diversion (where diversion is defined simply as the shifting of the source of supply from outside Country C to partner B).

Consider first the situation prior to a customs union. A is such a large supplier of X that, if there were only bilateral trade with B, trade would take place at D. However, this price is lower than Country A can get from C; A
Fig. F-1
high enough to completely prevent trade in these products, as shown by offer curves $R_A$ and $R_B$. This example resolves two puzzles: First, how can the contention of UTR writers—that UTR is always at least as good as a customs union—be correct if C has prohibitive tariffs, so that trade with C is not even an option for A and B? The answer is that the UTR contention is incorrect; C's prohibitive tariffs open up a sufficiently wide wedge between $O_1$ and $O_2$ to drive C out of the picture, as in Figure 2, thus leaving a CU as the preferred policy. The second is the Nepal paradox. Therefore carries on some trade with C, at the (after-transportation, after tariff) relative prices shown by the slope of $O_2$. If we assume for simplicity that there are no transportation costs between Countries A and B, Country B chooses to trade with A at the relative set of prices at which A can trade with C; that is, the slope of $O_2$. Thus, prior to the customs union, OB trade takes place between Countries A and B, while BA takes place between Countries A and C.

After the CU is established, trade takes place at point E. Countries A and B now trade only with one another; diversion of BA of trade has taken place.

The question is, how does each country compare this CU solution with UTR? Consider first Country A's options. Unilaterally, A can improve its situation by eliminating tariffs, moving to point M. (The case here is the same as for unilateral free trade in Figure 1.) Clearly, for Country A, E is better than UTR point M; a CU dominates UTR.

For Country B, unilateral gains are possible by a partial tariff cut, rotating its offer curve to $R_B$, and increasing its trade by BA. (Given C's transportation costs and tariffs, Country B can trade with C only at terms of trade $O_1$. Exchange at terms of trade $O_2$ is possible only with Country A, and—in the absence of reciprocal tariff cuts by Country A—the quantity is limited to OA.) Through the negotiation of a CU and thereby reciprocal tariff elimination with Country A, Country B can achieve a further move from A to E. We cannot be certain that E is superior to UTR point A from B's viewpoint. (M is better than A, but E may be either superior or inferior to M, depending on the elasticity of $Q_A$.) But E may be superior to A (if $Q_A$ is highly elastic and/or distance AM is large).

We have thus demonstrated our point that, even where trade diversion takes place, it is possible that a CU will leave each member country better off than UTR.
Nepal is so small that its offer curve(s) are indistinguishable from the origin; curves $O_1$ and $O_2$ in this diagram don't appear. Once again, in choosing between A and E, the two CU members are facing the standard free trade question.

Before leaving the offer curve diagrams, three loose ends remain to be tied up: The complications raised by the existence of more than one outside Country C; the existence of more than two goods; and ambiguities and confusions regarding the terms-of-trade issue.

1. **Many Outside Countries**

If A and B are trading with C, and C is a single large country, its tariffs will be borne by A and B; the prices at which A or B can sell to C will be reduced by the full amount of C's tariff, and the full amount of C's tariffs (as well as transportation costs) will be shown in the gaps between $O_C$ and $O_1$ and between $O_C$ and $O_2$. In a more realistic case, where there are many outside countries, the situation will be much more complex, with the tariffs of Countries C falling partly on domestic consumers and partly on trading partners. In this case, only part of C's transportation costs and tariffs will show up in the wedge in Figure 2. Indeed, it is conceivable that, if there are many outside Countries C operating in a highly-competitive international marketplace, the tariffs of each of these countries will fall completely on their own consumers, and will have no effect on international prices at all. (This seems to be the implicit assumption of much of the literature.) But even in this case, there will be a wedge because of transportation costs to and from C; or, more precisely, because of higher transportation costs with C than between members A and B.
Our analysis of this wedge illustrates the obvious--but frequently ignored--reason why customs unions are usually made up of geographically-close countries, and exclude distant countries; this opens up C's terms-of-trade wedge, thus allowing beneficial trade to take place between A and B. Thus this analysis raises doubts about the desirability from an efficiency viewpoint of geographically-dispersed preferential systems such as the old British Commonwealth, where inter-member transportation costs were generally no lower--indeed sometimes were higher--than transportation costs with third countries. (Of course, transportation costs are not the only thing to be taken into account when evaluating such an arrangement.)

2. Many Goods

While offer curves provide a great advantage in drawing attention to general-equilibrium issues, they suffer from the severe limitation that only two goods can be considered. Logically, the offer curve analysis might be seen as involving N commodities in an N-dimensional space. But the problem is that a two-dimensional diagram like Figure 2 cannot be used to describe just two of the goods (X,Y) in an N-good world. In a two-good world, the exports of X will equal the imports of Y in equilibrium (assuming away invisibles and capital flows), but there is no presumption in an N-good world that the exports of any particular good, X, will equal any particular import, Y.

Faced with this problem, we depart from the formal model to offer some impressionistic conclusions regarding the introduction of additional goods.
In a many good world, the wedge formed by C's transportation costs and tariffs will be much larger for some goods than for others. Thus, Figure 1 may represent the case for some goods, while Figure 2 is closer to the mark for others. In other words, in some goods (such as those shown in Figure 1) a customs union may offer no more than unilateral tariff reduction; at the same time, in other goods (such as those shown in Figure 2 where member countries can share a windfall saving on C's transport costs and tariffs) a CU may provide gains not possible with UTR.

When we move into an N-commodity world, an assumption which originally seemed plausible becomes much less so: In a world of only two goods, it seemed reasonable to argue that the large Country C may predominate the pricing of both commodities (provided we ignore the tariff-transportation wedge of Figure 2). But, in a world of thousands of commodities, even a huge country may not produce large amounts of every product. After all, even moderately sized single countries at present have substantial influence over the market of particular goods (Saudi Arabia in oil, Brazil in coffee, Canada in wheat). Thus it seems implausible to see outside Country C as predominant in all commodities, and we must therefore question the rigid UTR assumption that C freezes world terms of trade. For example, it is difficult to argue that the rest of the world (C) could offer fixed terms of trade to a South American CU. (However, in order to directly address the UTR case, we have assumed in Figure 2 that C's offer curves do reflect fixed terms of trade, and we continue hereafter to make that assumption.)
3. Further Terms-of-Trade Issues

We now consider how a CU may affect the terms of trade between members A and B. First, observe that we have drawn Figure 2 so that the terms of trade between the two members are the same at E as at point A. This illustrates our main contention: Each Country (A and B) can obtain gains from a customs union which it cannot achieve unilaterally, even if the customs union does not change the terms of trade between members within the union, or between the union and outside Country C. Of course, as we noted earlier, there is little chance that the terms of trade between A and B will in fact remain exactly the same; they are likely to move one way or the other to some degree. For example, suppose $Q_A$ and $Q_B$ intersect to give a CU equilibrium at $F$. Although the CU has resulted in a deterioration in B's terms of trade (an improvement in A's), it is beneficial to the two countries collectively, and may also be preferred by each to unilateral free trade. For B, a CU can provide benefits that exceed unilateral free trade even though it involves a terms-of-trade loss.

The second point is that, even if we assume that B is a large country, presenting Country A with an infinitely elastic offer curve, Country A can still have a terms-of-trade change, and a gain from a customs union. Indeed A's gain will come precisely because its terms of trade improve as a result of B's tariff elimination, as illustrated in Figure 3.¹ The elimination of tariffs by B will cause its offer curve to rotate counterclockwise from $Q_B$ to $Q_B$, giving Country A better terms of trade and higher real income at CU point E than at original point A. Unlike the situation in Figure 1, the

¹For more detail see Lipsey (1970), pp. 88-89.
Fig. 3. Country B much larger than Country A
customs union position E is a Pareto optimum; it represents a collective gain for the two countries over the situation where each individually pursues UTR insofar as it is in its individual interest. In Figure 3, while Country A has an incentive to remove its tariff unilaterally and move from point A to G, Country B would lose by moving unilaterally from G to E by eliminating its tariff, since its tariff is borne by foreign exporters rather than by domestic consumers. Since B would not make this move, Pareto optimum E is not achieved through unilateral moves; instead the two countries would move only to G (which like A is not a Pareto optimum). On the other hand (again in contrast to Figure 1, and again because point E in Figure 3 is a Pareto optimum), it will be in their collective interest to get to E by forming a CU; A will be able to compensate B for the establishment of a customs union if B makes this a condition for agreement. (Of course, in an N-good framework, the compensation may take place in other commodities; it need not represent a direct monetary transfer.) Thus, point E may be achievable through bilateral (customs union) bargaining.

Finally, we should be careful in fitting the terms-of-trade issue into the overall case for a customs union. Returning to Figure 2, we note that, while the terms of trade do not change between the pre-union point A and post-union point E, terms of trade are not rigid; they can be changed by national action. For example, if instead of forming a CU, Country A unilaterally eliminates its tariff, this will result in a deterioration in its terms of trade with a movement to point M. The terms-of-trade gain for A when B

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E is not a Pareto optimum in Figure 1. (Each country can trade unlimited quantities along $O_0$.)
also agrees to eliminate tariffs—causing a move from M to E¹—will, in this special case, exactly offset the terms-of-trade loss from A's initial move (and will leave both countries better off from a welfare viewpoint).

The need for care in dealing with terms-of-trade issues becomes apparent if we consider a passage in which Johnson (1965, p. 270, italics added) refers to the terms of trade in evaluating the relative merits of UTR

¹Recognition of how partner's tariff elimination may improve terms of trade is very important in disposing of another long-held belief—that when Country A diverts trade from outsider C to partner B, it necessarily incurs a terms-of-trade loss because it is no longer buying from cheapest source C. (Later authors have correctly pointed out that it will get a production and consumption gain and the discussion has reduced to how these two gains compare with the terms-of-trade loss.) However, there may not be a terms-of-trade loss at all; indeed there may be a gain. Partner B may have been the cheapest source all along. But if this is the case, why wouldn't A have bought from B in the first place, before the CU? The answer is: B's tariff may have prevented such trade. To illustrate, consider the following extreme case: Suppose B is the lowest-cost free trade source, but B has imposed a prohibitive tariff that has precluded trade with all countries; accordingly, A has been driven to trade with a less protectionist Country, C. But if A and B form a CU, A will be able to trade with B, its lowest-cost free trade source. (In less extreme cases, this same result may occur if B's initial tariff is higher than C's, and sufficiently so to have choked off A's "natural" initial trade with B and replaced it with an initial trade with C.) In such circumstances, a failure to see beyond its own tariff could lead A erroneously to presume that C is its lowest-cost source—an error that would be avoided by examining foreign tariffs as well, and recognizing that the issue is not the apparent cost of imports—but rather their real cost in terms of the exports necessary to purchase them. (Moreover, note that switching this trade from the outsider to the CU partner is not only desirable from the point of view of the country diverting trade, but also implies a move towards greater world allocative efficiency, hence increased total welfare; paradoxically, in this extreme case a CU with B is A's means of "diverting" imports from a higher cost source—outsider C—to its reciprocally cheapest source B.)
...the form and logic of bargaining for reciprocal tariff reductions [are] phenomena which are incomprehensible to the classical approach to tariff theory, according to which the source of gain is the replacement of domestic production by lower-cost imports, whereas increased exports yield no gain (improved terms of trade apart) to the exporting country, but a gain to the foreigner through the same replacement of domestic production by lower-cost imports. Since these gains are attainable by unilateral action, the classical approach provides no explanation of the necessity and nature of the bargaining process.

A problem in interpreting this argument is an ambiguity in the passage we have italicized. If it is interpreted to mean that there can be no gain unless terms of trade change, then Johnson is wrong, as we have seen from our comparison of points A and E in Figure 2.

But there is a second possible interpretation of the italicized passage. Johnson may be comparing points M and E in Figure 2. That is, he

1 Johnson applies this argument both to customs union bargaining and to multilateral, most-favored-nation bargaining.

2 This second interpretation is apparently what Johnson had in mind. See the later passage in Johnson (p. 280) where he argues that the case for a customs union (rather than UTR) "must rest on the possible terms-of-trade loss from unilateral tariff reduction."
may be saying that there is no gain to Country A from a reduction in B's tariff, if we ignore any change in the terms of trade associated with that reduction. But this interpretation makes Johnson's statement vacuous. The economic objective of A in negotiating foreign tariff cuts is to increase the demand for its exports. This will involve a rotation in B's offer curve, and an improvement in A's terms of trade.\textsuperscript{1} Johnson's argument that there is nothing, improved terms of trade apart, to be gained from foreign tariff cuts amounts to the proposition that there is nothing to be gained if the foreign offer curve is unaffected. But this means that foreigners had no tariffs to begin with. This is not a very enlightening line of argument.

In summary, our plea for care in stating terms-of-trade issues is related to our plea that foreign tariffs not be implicitly assumed away in comparing UTR with a customs union.

\textsuperscript{1}There are, of course, two possible logical exceptions to the proposition that the rotation of B's offer curve will improve A's terms of trade:

(a) There is a dominant third country, as explained with Figure 1.

(b) Country A itself has a perfectly elastic offer curve. (In this instance, the UTR case is undercut, since Country A's tariffs fall on foreigners, not domestic consumers.)

The context of Johnson's passage makes it clear that he was not depending on either of these exceptions.
III. THEORETICAL APPROACHES IN THE UTR LITERATURE

In using offer curves, we have departed from the theoretical approaches of the literature under attack. It is therefore incumbent upon us to review the UTR arguments on their own theoretical home grounds, to show how the authors in fact fell into the traps we have alleged. We focus on the two principal articles which make the UTR case--those of Cooper and Massell (1965a), hereafter cited as C&M, and Berglas (1979).¹

1. The Cooper-Massell Model

C&M make their case with a diagram similar to Figure 4a, which shows the market in Country A for its importable good. $P_C$ is the perfectly elastic world supply curve; $D_A$ is domestic demand, $S_A$ the domestic supply, $S^*_B$ the excess supply of Country B, and $S_{A+B}$ the supply curve in A which includes both $S_A$ and $S^*_B$. Suppose that, prior to the establishment of the customs union, A's tariff had been greater than RQ: for example, RG. Quantity FT would be imported from Country C, and GF produced domestically, with the domestic price being OG. (Obviously, if there is a prohibitive tariff, with G higher than A, nothing will be imported initially.)

¹Of the other UTR literature cited in the first paragraph, Johnson focuses on a particular issue not dealt with in this paper; namely, the implications of externalities in industrial production. Krauss presents a review of the literature, and his UTR case is based on C&M. (He does, however, extend the argument in defending C&M against the charge of Arndt (1968) that C&M depend on a partial-equilibrium analysis.) Dauphin (1978) is also based closely on C&M.
Fig. 4a. The Cooper-Massell Argument: The Market in Country A for its Importable Good.
Suppose now that a customs union is established with a prohibitive common external tariff. The domestic price in A will fall to OQ, with quantity BC being imported from partner B. Consumers in Country A will be better off; producers worse off; and there will be a loss of government revenue from tariffs. Whether there will be a net gain or net loss cannot be determined without comparing these gains and losses.

But, say C&M, the effects of the customs union may be divided into two parts. First is the tariff reduction from RG to RQ; that is, the "tariff reduction component." If this reduction had been made on an MFN basis, there would have been all the gains obtainable from a customs union, in terms of lower prices for consumers and a shift from high-cost domestic production to imports. The second step, involving a move from most-favored-nation tariff RQ to a customs union, involves a loss from "pure trade diversion;" the source of supply is shifted from low-cost Country C to high-cost B, and A has a net loss of the tariff revenues (area 2). Since this loss does not occur under UTR, UTR is the preferred policy for Country A. Thus C&M conclude (pp. 745-46, italics in original) that this breakdown of a CU into a two-step move shows clearly that any rise in consumer welfare as a consequence of forming a customs union...is due entirely to the tariff reduction component.... Moving to a customs union from the position obtainable as a result of the non-preferential tariff reduction is necessarily inferior to an appropriate policy of non-preferential protection. ¹

¹The appropriate tariff cut C&M were referring to was an MFN cut to RQ. But the C&M argument might be extended: in their example, a cut to zero would provide the home country with even greater benefit. (That is, additional areas 3 and 4.)
Even without the option of forming a customs union, the home country already has the option of lowering its initial tariff and thereby reaping the beneficial effects that a customs union would provide without the offsetting losses.

The problem with this conclusion is that nothing has been said about exports or about cuts in the partner's tariffs; like the earlier quotation from Johnson, CAM's case is focused one-sidedly on imports. Nothing is said about how A's exports will respond to changes in partner B's tariffs, nor about how A might benefit as a consequence. Nor has anything been said about transportation costs and tariffs with Country C. We will now correct these oversights.

First, let us consider exports. We do this in Figure 4b, which is similar to 4a except that it shows B's import (i.e., A's export). With a CU, Country A enjoys a gain of area 5 on its exports to B.¹ (Since S_A* is the excess supply of A, area 5 --resulting from the higher price in A due to its preferentially-promoted exports to B--represents the increase in A's producers' surplus less the decrease in its consumers' surplus in this good.) This gain on exports 5 may more than compensate Country A for the loss it suffers on imports 2 resulting from trade diversion in Figure 4a; indeed, such a case is illustrated in Figures 4a and 4b. For Country A, a CU is better than

¹As has been particularly emphasized by Mishan (1968, 1959), there are conceptual difficulties in the measurement of gains and losses in diagrams similar to Figures 4a and 4b. These complications (except for the problems associated with community indifference curves) can be avoided by a general equilibrium approach, which we have already presented in part II.
UTR. This, then, is our first conclusion. From the point of view of a single 
country, recognition of the benefits from increased exports destroys the 
C&M argument that UTR necessarily is economically preferable to a CU.

However, the spirit of the C&M case can be partially rescued by a 
subtle line of argument that Berglas (1979, p. 329) presents using a much 
more complicated model. If Country A is better off, Country B must be worse 
off from the CU (as compared with UTR on B's part). With a CU, the net 
change in A's welfare (WA), as we have seen, is:

\[ W_A = 5 - 2 \]  
Similarly, 
\[ W_B = 1 - 6 \]  

But QZ = BC 
\[ \therefore 2 > 1 \]  

Similarly, 
\[ 6 > 5 \]  

If \( W_A > 0 \) 
then 
\[ 5 > 2 \]  

and 
\[ 6 > 5 > 2 > 1 \]  

\[ \therefore W_B < 0 \]  

Q.E.D.

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1 This follows even if B's excess supply curve starts at a price below 
R, say, point M. Any part of area 1 that lies below R is irrelevant. 
Specifically, it cannot be viewed as a gain from a CU, because B can always 
get this benefit even without a CU (by selling to C).
Because a CU involves a loss to Country B, it will be unwilling to negotiate a CU (barring non-economic motives) unless it receives compensation greater than \(6 - 1\). But, from expression (6) we know that this compensation is greater than A's gain \(5 - 2\). Thus, if A is going to compensate B enough to make B join, A will be worse off than with UTR. In this sense, UTR must still dominate a CU; the C&M thesis appears to be salvaged.

However, once we recognize transportation costs and C's tariffs, a mutually-beneficial CU becomes possible. Any gain on the part of one member need not be exceeded by losses by the other member, and the Berglas compensation argument can no longer be used to rehabilitate the C&M proposition. This is shown in Figure 5. Members of the CU no longer perceive a single price at which they can buy and sell from C. Instead, they perceive two prices: \(P_X\), the net price they receive if they export to C; and \(P_M\), the price they must pay if they import from C. The difference between \(P_M\) and \(P_X\)--like the wedge between \(O_1\) and \(O_2\) in Figure 2--reflects the transportation costs and tariffs incurred in trading with C. Assume that Country A initially has a prohibitive tariff on this good.

Now, a customs union offers a gain that cannot be obtained unilaterally, and does so without creating a loss for the other country for which compensation may be demanded. Country A, it is true, can in this product gain all that it would through unilateral reduction (namely, triangle \(7 + 8\); it would then import free-trade amount \(ME_2\) from Country B. (Note that B is a lower-cost source than C.) But B cannot ensure area \(9\) gains unilaterally; it can only do so by a CU that eliminates A's tariff. Note that \(9\) is not associated with a loss by A: A cannot import from C at less than price \(OQ\). Thus the CU losses, like area \(2\) in Figure 4a and \(6\) in Figure 4b that were the basis of the apparent rehabilitation of the C-M argument, do not exist in the range
Fig. 5. A's Import Industry, when C has Transportation Costs and Tariffs
between $P_X$ and $P_M$, and the rehabilitation of C-M therefore does not succeed.

Put another way, a country can (not surprisingly) ensure the gains through UTR in the industries where it is the natural importer, but (again not surprisingly) cannot ensure the gains through unilateral action in the industries where it is a natural exporter. The C & M results collapse completely. In summary, what is needed to see the limits of the C & M argument is attention to the export side as well as the import side. And, to open up the possibility of mutual gains, we must recognize the gap between the price at which a product can be exported to third countries and the price at which it can be imported from third countries.

2. The Berglas Model

In contrast to C&M's partial equilibrium model, Berglas (1979) casts his analysis of a Free Trade Association (FTA)\(^1\) in a general equilibrium framework (with three goods). It becomes evident that, as the model becomes more complex, it becomes more difficult to arrive at clear-cut generalizations. (His conclusions tend to be carefully stated as "likely" or "possible".) But, as already noted, one strong generalization he does retain is the erroneous conclusion that, if we exclude economies of scale and terms of trade changes, an FTA cannot provide greater benefits than unilateral action.

While Berglas does considerably advance the discussion by taking into account the tariffs of both A and B (along with the effects of a reduction in those tariffs), he leaves out C's transportation costs and tariffs. This

\(^1\)Berglas discusses an FTA, not a CU. The distinction between an FTA and a CU (i.e., non-uniformity of the external tariff) is unimportant for the points at issue in this paper.
 omission, along with the assumption that C is a big country, means that we are in a world similar to Figures 1 and 4 where there is only one world price, as determined by C's completely elastic willingness to buy and sell. In turn this eliminates the possibility of mutually-beneficial trade between A and B.

Berglas' omission of C's transport and tariff costs can be confirmed in his price table, reproduced (with minor modification)\(^1\) in Table 1; this is based on the initial trade pattern shown in Figure 6. For example, note that the only good exported to C (good 2 by A) is sold in the exporting country at the price existing in C (that is, \(P_2\)); C is thus assumed to have no transportation costs or tariffs. More generally, note that throughout that table prices are affected only by A's and B's tariffs; transport costs and C's tariffs are assumed away.

For simplicity, we can illustrate the problem this assumption raises in two simple partial-equilibrium diagrams (Figures 7 and 8). (We do not suggest that these do justice to the important general-equilibrium aspects of Berglas' article, but they will be sufficient to illustrate the points needed for our case.) In Figure 7, good 1 is shown; in Figure 8, good 2.\(^2\) The initial equilibria are E and e, and the equilibria after the FTA are F and f.

\(^1\)For simplicity, we show only two situations in Table 1; namely, an initial MFN world, and a situation where internal tariffs have been completely eliminated in a free trade association. (Berglas' original table is more general, applying to any degree of preference.)

\(^2\)There is no need to show good 3, since it is imported from C and its price does not change. As we are skipping over general-equilibrium effects, it may be disregarded.
TABLE 1. Domestic Prices in Berglas' Model*

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$P_1 (1 + t_1^A)$</td>
<td>$P_1 (1 + t_1^A)$</td>
<td>$P_1$</td>
<td>$P_1 (1 + t_1^A)$</td>
<td>$P_1$</td>
</tr>
<tr>
<td>2</td>
<td>$P_2$</td>
<td>$P_2$</td>
<td>$P_2 (1 + t_2^B)$</td>
<td>$P_2$</td>
<td>$P_2$</td>
</tr>
<tr>
<td>3</td>
<td>$P_3 (1 + t_3^A)$</td>
<td>$P_3 (1 + t_3^A)$</td>
<td>$P_3 (1 + t_3^B)$</td>
<td>$P_3 (1 + t_3^B)$</td>
<td>$P_3$</td>
</tr>
</tbody>
</table>

*Based on the trade pattern in Figure 6.

$t_{ij}^j = \text{tariff of Country } j \text{ on good } i.$
Fig. 6. Trade Pattern in Berglas' Model
Fig. 7. Good 1: B Exports to A

Note: Before the FTA, A imported OR from B, and at least RS from C. (A's total imports are not important and not shown.)
As a result of the FTA, A shifts source of imports RS from Country C to Country B.

$S^*_B$ = excess supply of good 1 by B
Fig. 8. Good 2: B Imports from A

Note: As a result of the FTA, A imports and consumes more of good 2

\[ D_B^* = \text{excess demand by B for good 2} \]
In the absence of any inter-country compensation, Country B gains surplus area \( \textcircled{1} \) in good 1,\(^1\) and area \( \textcircled{3} \) in good 2.\(^2\)

But A is worse off by \( \textcircled{1} + \textcircled{2} \), its loss in tariff revenue on good 1. (Since A's price and imports don't change, an FTA has no other effects.) Thus, A will be unwilling to enter the FTA unless it receives compensation of \( \textcircled{1} + \textcircled{2} \). Berglas assumes (p. 321) that B in fact pays exact compensation to A, leaving B with a net change in welfare of \( \textcircled{3} - \textcircled{2} \) [plus or minus general-equilibrium effects which we are ignoring; see Berglas' equation (6)]. It is not clear whether B will be worse or better off. But it is clear that B can do better unilaterally; by unilateral reduction in the tariff on good 2, it can get all the gains \( \textcircled{3} \) of an FTA without the disadvantages \( \textcircled{2} \) which come from an FTA.

The problem here is similar to that in C & M. With no tariffs and transportation costs on trade with C, there are no mutually-beneficial trade

\(^1\)Since \( S_B^* \) is B's excess supply, area \( \textcircled{1} \) represents the difference between B's increased producers' surplus, and its (smaller) decrease in consumers' surplus.

\(^2\)Not area \( \textcircled{3} + \textcircled{4} \), because B loses tariff revenue \( \textcircled{4} \).
opportunities between A and B which are not available by trading directly with C. To illustrate, consider again good 2 in Figure 8. The price A receives from B is \( P_2 \), regardless of whether the two countries form an FTA. But A could do equally well by selling to C at the same price. Nor does B care whether it joins a CU (in which case it acquires this good from A at price \( P_2 \)) or unilaterally eliminates its tariff (and thus buys from C at the same \( P_2 \)).

Neither seller A nor buyer B can gain more from an FTA than from dealing directly with C. The reason is that C provides both an equally attractive market to seller A and an equally attractive source of supply to buyer B. It can do so only because it provides an infinitely elastic demand and supply at the same price; this is possible only if C has no tariff or transport costs. Relaxing that crucial assumption means that either seller (A) or buyer (B) (or both) will no longer find C as attractive to trade with as the FTA partner. In short, when C's transport costs and tariffs are recognized, trade by A and B in an FTA may become more beneficial collectively than dealing with C directly.

[It might seem curious that Berglas (1979, p. 317) argues that an extension from 3 commodities to \( n \) 'does not significantly affect the results,' since goods not traded prior to the FTA but traded mutually beneficially afterwards between A and B should surely constitute some of the \( n \) goods. But given his assumptions about C, it is not curious at all. The assumptions mean that there are no sources or markets in any good which provide more mutual benefit than trade with C. Thus they mean that, when he deals with additional goods in order to generalize his argument in an appendix, this type of good does not appear (although goods which are completely nontradable do).]
IV CONCLUSIONS

Where then does this leave the basic customs union question: Why does a country join a CU? There may, or may not, be non-economic reasons; but there are at least four important possible economic motives:

1. To acquire economies of scale.
2. To acquire standard free trade gains from specialization. These may occur whether there is either trade creation (Figure 2) or trade diversion (Figure F-1).

Note that neither 1 nor 2 need involve terms-of-trade changes.
3. To improve terms of trade with the rest of the world.
4. To improve terms of trade with partners.

Finally, what can be said about the state-of-the-art subtlety—that a CU cannot be preferred to UTR? Once the effects of a CU on exports (as well as imports) are recognized, we have seen from Figure 4 that this is not true for a single country. Nor, as we have seen in Figures 2 and 5, is it true for all CU partners taken collectively, once one recognizes the existence of tariffs and transport costs in trade with the rest of the world.

Accordingly, there seems to be no further reason for subscribing to the idea that CU's tend to be formed exclusively for non-economic reasons. Such reasons may be present, and may, indeed, be very important. But economists should not dismiss economic motives; indeed, in our view, the economic consequences of trade preferences is a promising field for research.
APPENDIX: PARTIAL PREFERENCES

In his summary of his principal findings, Berglas (1979, p. 329) concludes that small countries "facing fixed terms of trade can benefit from the formation of a trade agreement by partially reducing tariffs on bilateral trade." Indeed, a partial arrangement can be designed which is superior to a CU or FTA. This conclusion is worth considering, because it apparently flies in the face of the general prohibition in GATT against partial agreements, while a complete CU or FTA is generally acceptable under GATT rules.

Berglas' conclusion may be illustrated with Figures 7 and 8. With a complete FTA involving compensation, B's (and the association's) welfare changes by areas 3 - 2. With partial rather than complete preferential tariff reduction, the movement will be to u and U, respectively. Observe that this early stage provides a large part of the gain (geuv in Figure 8) while involving only a small share of the loss (EUV in Figure 7). Thus, the overall effect, geuv - EUV is likely to be positive.

The logic of Berglas' argument is correct; countries whose principal objective is economic efficiency can do better with partial preferences than with a complete bilateral free trade arrangement. Initial reductions in trade-impeding tariffs will lead to a relatively large gain (geuv), while initial moves toward trade-diverting preferences will cause a relatively small loss (EUV). More generally, countries can reduce those tariffs which are a barrier to efficiency, and avoid reductions which lead to trade diversion and less efficiency.

But before this conclusion is taken very seriously, we may raise the question of whether countries which are permitted to engage in partial preferences are likely in fact to behave in such a manner, aiming at economic efficiency. After all, the logic of the UTR reduction case is that countries should completely
eliminate tariffs unilaterally (see above, pp. 9 and 22), yet in the real world they show little inclination to do so. To investigate this question, we should go back to the policy questions posed by the UTR literature--of why tariffs exist in the first place, and why countries have an incentive to form customs unions. Some of the UTR authors (Johnson, 1965; C&M, 1965b) suggest an answer in the preference which countries have for manufactures; tariffs may be a way of maximizing utility in the presence of such preferences. But suppose that we look at the more traditional explanation—that producer interests are concentrated and powerful, while consumer interests are diffuse and weak. That is, defects in the political process inhibit the choice of economically-efficient policies. If partial preferences are allowed, then countries may attempt to give away third country markets to one another's producers. If indeed producers are powerful politically, they may press for preferential tariff cuts where producers gain but preferences reduce efficiency (Figure 7), while little attention is paid to instances where consumers gain but preferences increase efficiency (Figure 8). In other words, the actual bargaining may lead to the opposite of the preferences needed to enhance economic efficiency. It is true that this will not make economic sense, but that is the whole point of the producer interest argument—that the political process results in very imperfect economic decisions.

In evaluating the GATT rule against partial preferences, therefore, it is critical whether we assume that countries make rational economic decisions (as the UTR literature suggests),¹ or whether we take the traditional view, that tariff policy represents an area where the political process is quite imperfect, and producer interest tends to be dominant. While we do not deny

¹Johnson (1965, p. 281) is aware that his approach "runs the risk of being misinterpreted as a justification of whatever countries have chosen or
that there may be something in the argument of C & M (1965b) and Johnson (1965) that manufactures provide externalities, we believe the traditional (producer interest) argument is more persuasive. (The Johnson-C & M approach leaves the question of why agricultural protection is substantial.) While the GATT prohibition of partial preferences is like almost any rule—in that it can under certain circumstances lead to undesirable results—we nevertheless venture the opinion that it is wise.

or choose to do." This risk is substantial, given his earlier arguments. [Consider, for example, his suggestion on pp. 258-59 (italics added) that, "In a detailed analysis of a particular nation's tariff policy, the nature of the preference for industrial production would be an important question, and could be inferred from the relative magnitudes of the premiums the public is willing to pay for different kinds of industrial production." (The dangers of justifying whatever countries do is also noted by Krauss, 1972, p. 429.)]
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