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THE CASE AGAINST TARIFF COMPENSATION*

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Should lightly protected industries be given tariff compensation? Reasonable people can and do differ on this issue; neither the case supporting tariff compensation nor that opposing it is fully conclusive. Nevertheless, it is the purpose of this paper to argue that, on balance, the stronger argument is on the negative side. It is argued that economists in particular should focus their limited influence on recommending tariff reductions rather than tariff compensation, but that even if this fails they should be most reluctant to recommend tariff compensation. The potential benefits from tariff compensation are small relative to the gains from tariff reduction but the informational problems of tariff compensation are such as to make even these small potential benefits unlikely in practice.

The Argument for Tariff Compensation

The term 'tariff compensation' has crept into the vocabulary of Australian economic policy discussion in the last five years or so. It is an unfortunate term. Both the words 'tariff' and 'compensation' convey a misleading impression of the meaning it has come to acquire. Numerous import-competing industries, and a few export industries, are highly protected in Australia, not only by tariffs, but also by quantitative restrictions, export subsidies, special tax provisions, etc.[1] Resources are drawn away from the export industries, from the non-protected import-competing industries and from the service industries, and this results in the well-known production effect of protection. There is an additional distortionary effect on the pattern of consumption and the result of each of these effects is a welfare loss, provided the country is 'small' relative to world markets. The source of both the production and consumption costs of protection is that relative domestic prices differ from relative international prices. The argument for 'tariff compensation' is that, if levels of protection are fixed, for

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[1] Data on nominal and effective levels of protection for various industries are available in [8] and [20].

political or other reasons, then 'some compensatory assistance' to non-protected or lightly protected industries is warranted on 'second-best' efficiency grounds. This would increase welfare, it is argued, by moving some resources out of inefficient (highly protected) industries and into more efficient (lightly protected) ones.[2]

Note that the above argument does not advocate 'compensation' in the redistributive sense used in modern welfare economics but is based solely on the criterion of economic efficiency. Some writers have used the term 'full compensation' to mean the equalization of all import duties at some common rate and the imposition of export subsidies at that same rate. This is to be distinguished from the form of tariff compensation discussed here. The general equilibrium effects of full compensation, so defined, are no different from those of the complete elimination of all prior protective measures. Exactly what policy measures tariff compensation does represent has been left surprisingly unclear in many of the writings on the subject, perhaps intentionally so, but in its most frequent usage it has come to represent subsidies on the use of particular inputs in lightly protected industries, only partially counteracting the effects of protection. A good example is the superphosphate subsidy. Used in this way, tariff compensation belongs to the domain of the economics of the second-best.

The economic issues involved are illustrated, in general terms, in Figure 1. Wheat and machines are produced and consumed domestically and are traded internationally at fixed prices. Under free trade, production is at point A, where the terms of trade line T^*T^* is tangential to the production possibility frontier PP, and T^*T^* is also tangential to the social[3] indifference curve U^*. Consequently, the domestic and international price ratios of machines to wheat are equal. Tariff protection of the machine industry moves domestic production to point B, where the domestic price ratio exceeds the international price ratio by the amount of the tariff. International trading possibilities are now given by the terms of trade line T^oT^o, parallel to T^*T^*. Consumption will occur at that point along T^oT^o where an indifference curve, like U^o, cuts it with a slope equal to the tariff-distorted domestic price ratio (slope of PP at B). Tariff compensation can now increase welfare if it induces domestic production to move into the shaded region of the production possibility set, to a point like C. This can occur even though C is in the interior of the production possibility set, a point of production inefficiency, and even though the domestic price ratio of machines to wheat is the same as at B. The terms of trade line passing through C will lie between T^oT^o and T^*T^* and the welfare level associated with C will lie between U^o and U^*. But if tariff compensation induces domestic production to move to a point like D, welfare will fall, even though the output of wheat has risen and that of machines has fallen, relative to that at B.

[2] See, for example, [7] and the references cited there, [9, 12 and 22]. For some arguments against tariff compensation, see [13]. I am in general agreement with Peter Lloyd's arguments, but there is more to be said.

[3] There are well-known problems in the definition of social indifference curves but they are useful for illustrative purposes. The reader may think of the society consisting either of a single individual or of many individuals with identical homothetic indifference maps.

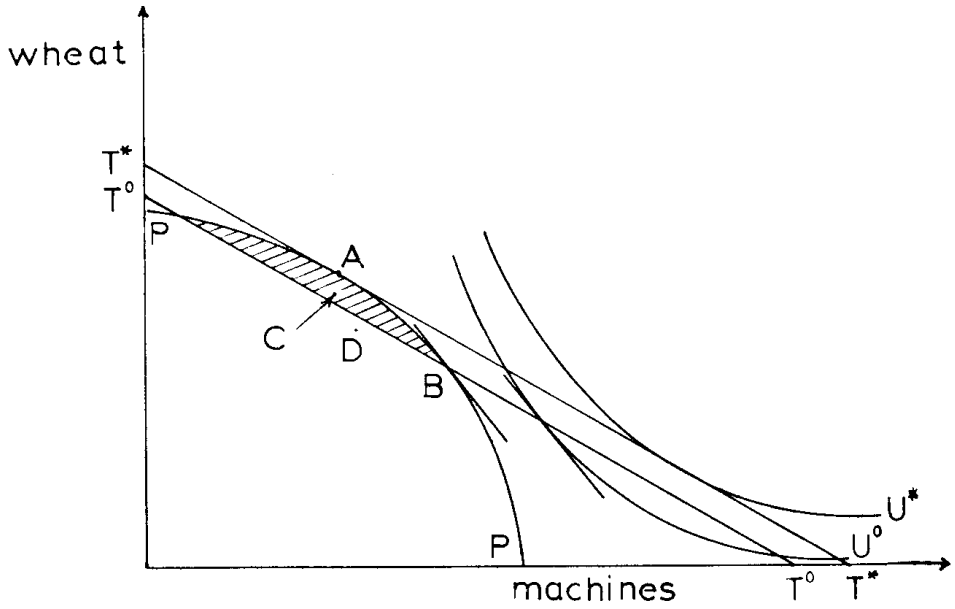

FIGURE 1—Some possible effects of a tariff and tariff compensation with two industries.

The Case Against

As far as it goes, the 'second-best' argument in support of tariff compensation is perfectly reasonable. Nevertheless, in this paper it will be argued that it is an inadequate base on which to frame public policy, that it is potentially dangerous, and that it disregards a great deal that is relevant to the issue.

Tariff compensation versus tariff reductions

At its best, tariff compensation is a poor substitute for across-the-board reductions in the level of protection. The welfare gains from the latter are certain, but from the former they are highly doubtful, as we shall see. What motivates the tariff compensation argument is the belief that tariff reductions are politically infeasible. It is disturbing to reflect on the degree to which judgements, often implicit, of the political feasibility of this or that policy change underlie economists' policy recommendations. On what are these judgements founded? Frequently, the basis is little more than 'gut feeling'. Whatever this is, it is not social science, and the tendency to mix economic analysis with implicit, loosely founded political guesswork does little for the professional credibility of economists as social scientists. It is unscientific because the standards of evidence and logical rigour demanded of economic analysis proper are usually totally absent when matters of political feasibility are being discussed. Every economist considers himself an expert, with no professional training in the matter, no explicit behavioural model and merely that most casual of empirical evidence. This does not mean that economists should refrain from studying the political system, far from it, but that the same standards of scientific inquiry should be applied here as elsewhere in economics.[4]

[4] For some recent examples of progress in this direction, see [1, 4 and 16].

Not surprisingly, the record of economists in predicting matters of political feasibility is a sorry one. Consider just two examples, beginning with Adam Smith.

> 'To expect, indeed, that the freedom of trade should ever be entirely restored in Great Britain, is as absurd as to expect than an Oceana or Utopia should ever be established in it. Not only the prejudices of the public, but what is much more unconquerable, the private interests of many individuals, irresistably oppose it.' [19, p. 435].

But seventy years after Adam Smith wrote these memorable words the repeal of the Corn Laws went far towards establishing the freedom of trade he thought impossible. The second example is Keynes' 1931 advocacy of a tariff for Britain. Keynes as professional economist thought devaluation was appropriate at that time, but Keynes as amateur political scientist thought that politically infeasible, so he recommended a tariff [10, p. 296]. Six months later, Britain devalued, but the tariffs introduced in that year are still in place [17, pp. 155-7].

Many other examples, closer to home, can be offered. The point is that we are really quite uncertain about what is politically feasible and what is not and that the situation can change rapidly. We should not refrain from recommending the policies that we know will lead to first-best optimality, even if those recommendation seem at the time to be unwelcome. It is legitimate to spell out second-best policies as well, but the danger is that the assumption that first-best policies are infeasible will cause the debate over second-best policy recommendations, like tariff compensation, to divert attention from the primary distortion, protection, and to lessen the prospects of genuine reform. Economists have limited influence, and, in my view, they should focus it primarily on drawing attention to the welfare cost of inefficient policies. We should be recommending reductions in levels of protection and a more flexible exchange rate as the objectives of trade policy.

Two kinds of error are possible. Type I errors involve recommending first-best policies when they are in fact politically infeasible. Type II errors involve recommending second-best (or n-th best) policies when first-best policies really are politically feasible. Denote the level of welfare associated with first-best policies by U^*, that associated with second-best (or n-th best) policies by U' and that associated with no intervention, other than the initial distortion, by U^0. Then $U^* > U' \geqq U^0$. The potential cost of Type I errors is now $U' - U^0$ and the cost of Type II errors is $U^* - U'$. I have attempted to show elsewhere that Type II errors are typically far more costly than Type I errors. This is done with the aid of a simple general equilibrium model, illustrated with numerical examples, in [26]. Optimal 'compensatory' input subsidies are derived when output prices are distorted by tariffs. Production functions are assumed to be Cobb-Douglas and the effects of alternative policies are computed under a wide range of parametric assumptions. A typical, but by no means extreme, result is that Type II errors are 12 to 15 times as costly as Type I errors. An alternative way of looking at this is that, even when tariff compensation is optimally applied, it is dominated in its welfare effects by quite small reductions in the level of protection, of the order of 2 to 5 per cent, for example. Again, these are typical, not extreme, results. The welfare

gain from the appropriate second-best policy is typically quite small but, once the practical problems of implementing these policies are considered, even its sign is very much in doubt, as we shall see below.

Political repercussions

To say that economists' recommendations of tariff reductions are likely to go unheeded is not the same thing as saying that tariffs are fixed. Tariff compensatory policies, if they are effective at all, will have their effect by moving resources out of highly protected industries. What effect will this have on the political forces determining the levels of tariffs? Without an empirically tested model of the political bargaining mechanism, we cannot answer this question with any degree of confidence. Regrettably, we do not yet have that. Nevertheless, it is clear that the resource movement out of protected import-competing industries will result in a fall in their share of domestic markets and this will be interpreted by the spokesmen of those industries as 'unfair competition' from abroad. To the extent that politicians are concerned with the market share of the domestic industry, as recent rhetoric on the automobile industry suggests, this could lead to an *increase* in tariff levels, and the net result may well be a substantial welfare loss. We can imagine subsequent increases in tariff compensatory policy instruments to counteract this, and so on. The cumulative result could be disastrous from a welfare standpoint. In addition, as Peter Lloyd [13] points out, one act of 'compensation' may lead to another. If the rural sector is to receive compensation for industrial protection, for example, those industries injured by this compensation would have an equally reasonable claim for their own compensation for this, etc. The welfare implications of this series of events are far from clear.

Furthermore, the process of bargaining over the levels of tariffs, import quotas, compensatory subsidies, etc., uses resources. In the Australian case, it would seem likely that the resource cost is particularly high. Economists have come to call this process 'rent-seeking' [11, 23]. The point is that the resources devoted to it are pure waste from a social standpoint. The rental transfers they aim at are a redistribution from one group to another, with some efficiency losses in the process. An example of the latter is the welfare cost of the tariff. But these efficiency losses may actually be quite small relative to the social cost of the resources devoted to fighting over the size and disbursement of the transfers. If the introduction of tariff compensatory policies led to substantial increases in the resources devoted to lobbying, etc., then the net result could well be a welfare loss even if the tariff did not increase in consequence.

The meaning of 'political infeasibility' in the second-best argument

The 'second-best' argument for tariff compensation rests on the assumption that tariff reductions are politically infeasible. But what does this mean? This argument makes sense only if the policy maker concerned with tariff compensation has no control over the tariff as a policy instrument. At a minimum, those who fix tariffs must be a separate branch of the government from those who award tariff compensation, neither having power to control the other. If this is not the

case, then we should advise policy makers that, if they wish to reduce the welfare cost of protection, by far the best way to do so is to reduce the level of protection. For any domestic objective, like maintenance of the market share of a domestic import-competing industry, there exists a policy instrument, such as a production subsidy, which is unambiguously superior to tariffs, import quotas, etc. If this advice is rejected we can only conclude that, for the time being, policy makers do not *wish* to reduce the welfare cost of protection. To proceed then to play one interest group off against another with talk of tariff compensation cannot really be defended by reference to the economics of the second-best.

To illustrate, consider a somewhat different circumstance in which the second-best argument clearly does make sense, namely in benefit-cost analysis. One particular branch of the government, we will suppose, is charged with evaluating public investment projects. An officer of this agency is evaluating a dam somewhere in the hinterland and finds that the desirability of this dam is affected by the government's trade policy. There is a prohibitive tariff on some crucial item whose production will be increased by the dam and the tariff causes this item's domestic price to be much higher than it would otherwise be. Should the benefit-cost analyst value this item at its international price, the price that would hold on elimination of the prohibitive tariff, or at its domestic market price? He may well, and perhaps should, recommend that the tariff be eliminated. But, since neither he nor his governmental agency has any control over the tariff, in order to evaluate the dam he must attempt to assess the likelihood that the tariff will in fact be eliminated. In many circumstances, it will make sense to assume that the tariff will remain and to value the item at its domestic price. (See [18] and [24].)

Now, does this separation of powers really hold in the case of tariffs on the one hand and tariff compensation on the other? It seems to me to be unlikely that it does. If it does not hold, then the tariff compensation argument is an illegitimate application of the theory of the second-best.

Nature of the second-best policy

Even if the basis for the second-best argument is conceded, and the level of protection is regarded as fixed (upwards as well as downwards), it is not necessarily the case that the appropriate second-best policy is the kind of subsidy envisaged by the advocates of tariff compensation. Consider the superphosphate subsidy, for example. Superphosphate is traded internationally and so are most of the outputs to which it is an input: wheat, wool, lamb, etc. Suppose, first, that there are just two industries, agriculture and manufacturing, and that manufacturing is protected by fixed tariffs, while agriculture is unprotected. Suppose they use no mobile, non-traded inputs in common. They use entirely different types of labour, land, etc. Then the optimal superphosphate subsidy, derived from the usual second-best analysis, is *zero*. Superphosphate should be used in agriculture up to the point where its marginal value product at international prices is equal to its international price. There should be no divergence between the relative

domestic and international prices of agricultural produce and superphosphate. (If there was an output subsidy on agricultural produce, there should be an equal *(ad valorem)* tariff on imports of superphosphate.)

Now suppose that labour is mobile between the two sectors. Then the optimal second-best subsidy on superphosphate is still zero, but there should be a subsidy on labour use in agriculture at the *ad valorem* rate $t/(1+t)$, where t is the rate of the tariff on manufacturing produce. (See [26].) This can also be achieved by an output subsidy on agricultural produce at the rate t and a tariff on superphosphate imports also at the rate t, although this eliminates completely both the production cost and the consumption cost of protection whereas the labour subsidy eliminates only the production cost. If 'manufacturing' consists of several industries, protected at different levels, then the optimal labour subsidy is much more difficult to determine (it is a weighted average of the tariff levels in manufacturing) but the optimal superphosphate subsidy is still zero.[5]

If it is impossible to subsidize labour use in agriculture as above, then there may be a case for a superphosphate subsidy. This case is analysed in some detail in [25] and [26]. A superphosphate subsidy is desirable to the extent that it increases the marginal product of labour in agriculture (which it will, provided the two inputs are complements) and induces additional labour use in agriculture. But suppose there are really three industries, manufacturing, agriculture and mining, the latter two being relatively unprotected. A superphosphate subsidy will draw labour away from both manufacturing and mining. The first is desirable but the second is not. It is no longer clear that the optimal superphosphate subsidy is still positive. It could well be zero, or even negative. (If mining is less heavily protected than agriculture, and uses similar resources, this is a strong possibility.)

There is an important lesson here. It makes little sense to speak of second-best problems or policies except in the context of a specific economic model. The results depend heavily on the formulation of the model, especially when international trade is introduced.

Informational requirements

Let us consider the cases where the second-best optimal intervention is non-zero. Such a case is analysed in [25] and [26] in the context of a very simple model. This is seemingly the simplest general equilibrium model possible that still captures the essence of the tariff compensation issue, yet even in this case the informational problems of determining the magnitude of the optimal intervention are quite severe. Suppose that all but one of the parameters of the expression for the optimal input subsidy are estimated precisely, but that errors are made in the

[5] This result generalizes to any number of traded and non-traded inputs. In the two-sector case, the use of all mobile non-traded inputs should be subsidized at the same rate in the lightly protected sector but traded inputs should not be subsidized in that sector. However, their use in the highly protected sector should be taxed. Equivalently, the use of all inputs in the highly protected sector, traded and (mobile) non-traded, should be taxed at the same rate. If the highly protected sector's import-competing output has a tariff at the rate t, while the other (export) sector is unprotected, the correct rate of input tax is just t.

estimation of the remaining parameter. We can then ask how large an error must be made in the estimation of this parameter for a 'compensatory' input subsidy based on this information to reduce welfare rather than to raise it. A typical result is that an error of about 40 per cent in the estimation of just one parameter is sufficient for 'compensation' to be worse than nothing. In more extreme cases, errors of as little as 7 per cent will reduce welfare! The level of welfare resulting is really quite sensitive to the estimates of some key parameters.

The above results, it must be stressed, were obtained with a very simple model. In more realistic circumstances, the informational problems of determining the magnitude of the optimal intervention will be much greater. Is it reasonable to expect that they can be solved in practice? It would be wrong to suggest that it is logically impossible to solve these problems, but a heavy research input would be required to determine the information needed to compute tariff compensatory policies that will increase welfare. Of course, further research would be required actually to acquire that information. Such research is very costly and the potential benefits are not large. It is significant that the writers advocating tariff compensation have not begun to deal with the question of informational requirements. The debate has been entirely about whether 'some level' of tariff compensation was justified 'in principle'. It is not good enough to say that the above informational problems can be resolved 'more or less'. For tariff compensation to be worth discussing seriously, we must be able to say that there is a reasonable prospect that welfare-increasing compensatory subsidy levels could be determined *in practice*. This seems to be far from the case.

Iterative adjustment problems

A less obvious, but no less important, problem concerns the adjustment mechanism of moving from an initial position of zero tariff compensation (or some other non-optimal level) to one of optimal tariff compensation. Assume that the optimal level of tariff compensation is positive and that the above informational problems are solved in the sense that the current values of all variables appearing in the expression for the optimal intervention can be estimated without error. It is then necessary to approach the optimal solution iteratively. Examples can be constructed (see [26]) where this adjustment process is non-convergent. In such cases, even though there are no informational problems at any one time (in the above sense), intervention pushes the economy further away from the optimum at each step, lowering welfare with each iteration. More important, though, is the point that, even when adjustment is convergent (the analysis in [26] suggests that this is the more likely case), the iterative approach to the optimum may require many steps before the optimal level of the instrument of intervention is reasonably approximated. There is the possibility of serious error at each iteration, but it is not sufficient to stop the process after a single step. This can actually be worse than nothing, as is shown in [26], even though the adjustment process is convergent.

Political determination of subsidy levels

Discussion of informational and iterative adjustment problems may

well be quite irrelevant. If we succeed in persuading policy makers that tariff compensation is 'in principle' a good thing, there is little reason to expect that the levels of subsidies will be influenced at all by the subtleties of second-best analytics. After all, the levels of tariffs could hardly be said to be influenced by economic analysis. Economists speak with a single voice on the optimal level of a tariff: zero, except where there are terms of trade effects to be exploited. Do we have reason to think that anything more enlightened, from a welfare point of view, will determine the level of compensatory subsidies? If not, what reason do we have to believe that the levels of compensatory subsidies actually adopted will increase welfare rather than reduce it? Politicians do not need economists' support to adopt arbitrary policies and, in my view, economists should not provide it. The danger is that 'tariff compensation' will become a front for extensions of the kind of pork-barrel politics that proponents of tariff compensation would not themselves support, and that gave us high protection in the first place.

Two False Leads

Not only has the Australian literature on tariff compensation contributed little to the solution of its informational problems, but even the economic principles suggested by some writers for the determination of the levels of compensatory subsidies have been erroneous, or at least misleading.

Equalizing effective rates of protection

Free trade implies that effective rates of protection are equalized across industries at the rate of zero. A uniform tariff on all imports at the rate t and a uniform subsidy on all exports also at the rate t implies that effective rates of protection are again equalized across industries, but now at the rate t, not zero. The allocation of resources, and the resulting level of welfare, is the same in the two cases, however, so there is nothing to choose between them. This is so because relative prices are the same in the two cases. The relative domestic prices of traded commodities are equal to their relative international prices in both cases, and the prices of non-traded commodities, relative to traded commodities, are the same in the two cases. This fact has led some writers to argue that the government should attempt to equalize effective rates of protection across industries, but that this need not be at zero level; any common level will do.

This argument is badly misleading. There are many ways of equalizing effective rates of protection across industries, but their effects on resource allocation are not all the same. To see this, consider an economy with only two industries, one of which produces an export commodity (say, wheat) using a traded input (say, fertilizer) and some non-traded inputs, and the other produces an import substitute (say, cars) using only non-traded inputs. Beginning with a tariff on car inputs of, say, 20 per cent, the car industry has a level of effective protection of 20 per cent, while the wheat industry has a zero level. Now consider the following three ways of moving to the equalization of effective rates of protection across industries:

(a) abolish the tariff on cars;

(b) introduce a 20 per cent subsidy on wheat exports and a 20 per cent tariff on fertilizer imports, leaving the tariff on cars unchanged; and

(c) introduce a subsidy on fertilizer imports.

Policies (a) and (b) are equivalent in their resource allocational effects. In case (a), effective rates of protection are zero in both industries, while in case (b) they are 20 per cent in both, as they are in case (c), by appropriate choice of the fertilizer subsidy. But while policies (a) and (b) are optimal, policy (c) is distortionary. The level of the fertilizer subsidy that is needed to raise the level of effective protection in the wheat industry to 20 per cent depends on the share of fertilizer in the value of wheat output, but the important point is that, although relative prices are the same in cases (a) and (b), they are different in case (c). To see this, it is necessary only to consider the relative domestic prices of cars, wheat and fertilizer. In case (c) they differ widely from their relative international prices. In [26] it is shown that policy (c) is not only inferior to policies (a) and (b) but, in every combination of parametric assumptions considered, it is substantially worse than the initial tariff-distorted position.

Optimal trade policies imply that effective rates of protection will be equalized; but the implication does not run in the opposite direction. Equalizing effective rates of protection is not necessarily desirable, depending on how it is achieved, and we certainly cannot assess the desirability of a policy change by asking whether it constitutes a movement towards or away from equalized effective rates of protection.

The devaluation 'equivalent' of the tariff

A theme which pervades the Australian literature on tariff compensation is that the abolition or reduction of tariffs would necessitate a devaluation of the exchange rate. It is suggested by several authors that this information is somehow relevant to the determination of the appropriate levels of tariff compensation and the identification of those industries where it is warranted. To see why this is fallacious it is necessary first to review briefly the essential economic features of tariffs on the one hand and exchange rates on the other.

The effect of a tariff is to change relative domestic prices. Assuming the domestic country is 'small', the long-run domestic prices of imported goods and import substitutes subject to the tariff are increased relative to other traded goods' prices. A tariff is therefore a 'real' phenomenon and its effects on resource allocation can be analysed, and usually are, in models in which money is either absent or plays no essential role. The exchange rate, on the other hand, is the rate at which two moneys, the domestic currency and some foreign currency, exchange for one another. It is an essentially monetary phenomenon and it is not possible to analyse it except in models in which money is present. Hence, if we wish to focus on the balance of payments or the exchange rate, we need to construct models in which the demand and supply of money are explicitly studied. The latter is the essential insight of the 'monetary approach' to the balance of payments and has dramati-

cally changed the nature of international monetary economics in the last decade.

The discussion above does not imply that tariffs and exchange rates are independent, but that, if we wish to consider the effect of a tariff on the exchange rate, for example, we must inquire how it affects the supply of and, more particularly, the demand for money. The traditional view that a tariff necessarily improves the balance of payments, and allows an appreciation of the exchange rate, because it discourages imports, is erroneous. Tariffs can actually *worsen* the balance of payments and cause a depreciation of the exchange rate [14]. The reverse outcome is the more likely, but the mechanism is monetary. By increasing import goods' prices, tariffs may reduce the real value of money balances relative to desired money balances, and this stimulates the hoarding of money. The consequent reduction in the demand for goods reduces imports relative to exports and this leads to an improvement in the balance of payments and facilitates an appreciation of the exchange rate.

On the other hand, exchange rate adjustments need not necessarily have any long-run effects on relative prices, either of traded or of non-traded commodities. For there to be unambiguously *no* effect on traded/non-traded or non-traded/non-traded commodity price ratios, it is necessary to assume that the change in the prices of domestic assets relative to foreign assets is fully anticipated, so that the level of composition of real wealth is unchanged; otherwise these real wealth effects could affect the demand functions for commodities and so change relative prices. But, in the absence of this strong assumption, the long-run impact of any real wealth effects of exchange rate adjustments on relative prices is likely to be small, and in any case the directions of any such effects cannot be predicted *a priori*. Furthermore, to the extent that any long-run relative price changes occur, these will not involve changes in the relative prices of traded commodities, as in the case of a tariff, but changes in the relative prices of non-traded commodities, or of traded relative to non-traded commodities.

The impact of the exchange rate is on the domestic price level, not on internal relative prices. Although the rates of adjustment of various commodity prices to an exchange rate change may differ, causing short-run relative price changes, it must be stressed that these are transitory effects and not changes in the long-run equilibrium relative prices. It is clear, then, that exchange rate changes on the one hand, and tariffs on the other, have very different effects; there is no such thing, in a general sense, as 'the devaluation equivalent of the tariff'. A tariff causes substantial changes in long-run equilibrium relative domestic prices; a devaluation or revaluation does not. It is true that tariff changes will have effects on the exchange rate but the point to be stressed is that knowledge of the magnitudes, or even the signs, of these exchange rate effects is in no way relevant to the determination of the appropriate levels for 'tariff compensatory' policy instruments. The latter depend entirely on real variables and not at all on the monetary relationships that determine the former.

Nevertheless, A. G. Lloyd [12] writes:

'Within the internationally-traded-goods-sector, the only *really*

> protected industries are those whose protection exceeds the devaluation equivalent of the tariff, since it is only those protected industries which are larger than they would be under free trade.'

What is wrong with this is that knowledge of the exchange rate adjustments that would follow the abolition of tariffs is possible only with a monetary analysis, but this has nothing to do with the identification of the industries which are larger than they would be under free trade. The latter is most easily done with a model in which money is absent, and is usually done in this way. Monetary phenomena, like exchange rate changes, play no essential role in this analysis.

Summarizing the Green Paper on Rural Policy, Harris writes of the devaluation which would presumably follow the abolition of tariffs:

> ' . . . this devaluation of the exchange rate, relative to the exchange rate that exists with the tariff, would provide higher prices to Australian exporters in terms of Australian currency; consequently, the existence of the tariff is equivalent to a subsidy on import competing goods and a tax on exports' [7, p. 132]

and

> ' . . . if the removal of tariffs is not possible for political or other reasons . . . this . . . may validate some assistance being provided to export industries up to the point which would equate with the exchange rate that would apply in the absence of the tariff' [7, p. 132].

The second half of the first quoted statement is correct, but its correctness in no way depends on the first half of the proposition. It is true even when the first half is not but, to repeat, it is equally true in models in which money is not present at all and exchange rates have no meaning. The second statement provides no guidance for tariff compensation. It is possible to derive the optimal rates of subsidy under the conditions Harris specifies without knowledge of the monetary relationships which determine the equilibrium exchange rate that would follow the abolition of tariffs. Moreover, it is possible to analyse the latter without detailed knowledge of the real relationships that determine the former.

Despite the above, Harris correctly states in the abstract to his paper that the optimal rate of tariff compensation ' . . . needs to be assessed in the light of the appropriate substitution and complementarity relationships.' This has nothing to do with the exchange rate arguments cited above and, despite its vagueness, it at least draws our attention to the relevant variables.

Conclusion

The aim of tariff compensation is ostensibly to reduce the costs of protection; but this is achieved more efficiently and more reliably by reducing the level of protection. In this paper I have argued that economists should recommend the latter but not the former. The argument for tariff compensation is an application of the economics of the second-best, and the application of second-best arguments to practical policy-making is fraught with pitfalls for the innocent. Not only do such arguments ignore the well-known costs of administering and financing

the interventions they are used to justify, but they are based on dubious political assumptions and their application presents severe informational problems. I have argued that the potential benefits from tariff compensation are likely to be small indeed, but that the potential costs of well-intentioned but erroneous interventions can be substantial.

Virtually all participants in the tariff compensation debate seem to agree that gradual across-the-board reductions in levels of protection are the most appropriate way to rationalize Australia's commercial policy. Nevertheless, advisers to government are typically constrained to provide their advice on a piecemeal basis, one tariff, subsidy or import quota at a time. This creates the problem. The difficulty is that, unless the nominal tariff being considered is the highest across commodities, one cannot be certain, solely on theoretical grounds, that reducing it will raise welfare. If the industry involved appears to have a relatively low level of protection, as with several of the agricultural industries, it has seemed to many that *raising* its level of protection, loosely speaking, is more likely to raise welfare than lowering it. I have criticized this argument in this paper but much of the motivation for the compensation argument can clearly be attributed to the piecemeal nature of Australian trade policy review. It is essential to distinguish between the welfare effects of a particular act of lowering a specific tariff, subsidy, etc., and those of reducing levels of protection consistently over time and across industries, albeit on a piecemeal basis, whenever the opportunity arises. The directions of the welfare effects of the former are frequently uncertain but those of the latter are not. It is my contention that economists are more likely to have a favourable impact on trade policy formation by consistently arguing the case for reductions in levels of protection in all industries than by arguing for tariff compensation.

The approach to economic policy that the tariff compensation argument represents was forcefully attacked in a recent paper by Alan Peacock [15]. Referring to the British experience, he writes:

> 'The crux of the argument of the intelligent sceptics is that rigidities in both the national and international economy produced by the power of strong vested interest-groups cannot be removed. At best they can only be neutralized and by methods which will often go counter to the workings of the free market. As an erstwhile civil servant I have come to respect their views and their integrity; but I believe they offer us a counsel of despair, notably in relation to our domestic economy. Moreover, I contend that selective state intervention will proliferate across the whole of government, producing precisely the result that many of them are anxious to avoid—an administered centralized so-called planned economy, and an inefficient one at that.'

We were warned. As long ago as 1929 the authors of the Brigden Report [2] wrote:

> 'The most disquieting effect of the tariff has been the stimulus it has given to demands for government assistance of all kinds, with the consequent demoralizing effect on self-reliant efficiency throughout all forms of production.'

Arguments for tariff compensation mean more governmental control, more bureaucracy, and threaten to divert attention from the central issues of commercial policy.

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