DUP ACTIVITIES AND ECONOMIC THEORY*

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This paper considers the theory of Directly Unproductive Profit Seeking (DUP) activities, examining its implications for economic theory. Two classes of DUP activities are distinguished: one where the DUP activity is triggered by policy which is itself exogenously specified (e.g., tariff-revenue seeking resulting from pre-specified tariff); the other where DUP activity endogenises policy fully (e.g., tariff seeking). Implications for both positive and normative argumentation in economic theory are considered in depth for both these classes of DUP activity.

1. Introduction

Recently, several economists have directed their talents to examining the impact of what have been christened [Bhagwati (1982a)] as Directly-Unproductive Profit-seeking (DUP) activities. Among the more prominent such contributors, distinguished by different 'schools' of thought, are (i) Buchanan, Tullock and other important members of the public-choice school, with their major work now conveniently collected in Buchanan, Tullock and Tollison (1980) and reviewed well in Tollison (1982); (ii) Bhagwati, Findlay, Hansen, Krueger, Magee, Srinivasan, Wellisz and other international economists, whose work is reviewed and systematized in Bhagwati (1982a); (iii) Becker (1983), Peltzman, Posner, Stigler and other members of the Chicago school, whose notable work is variously available; and (iv) Lindbeck (1976), whose influential work on 'endogenous politicians' is widely known.

While considerable progress has been made in formally analyzing indi-

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vidual DUP phenomena (e.g., revenue seeking, tariff seeking, monopoly seeking, etc.) in recent works that integrate them into properly specified general equilibrium models, attempts at synthesizing them have begun only recently: among them are Buchanan (1980) and Bhagwati (1982a). In this paper, we propose to examine a somewhat different but equally general and ambitious question: how serious for economic theory, as conventionally practiced, is the systematic integration of DUP phenomena into our analysis?

Section 2 defines DUP activities and lays out a suitable taxonomy of DUP categories or types which will serve our later analysis. Section 3 then considers the implications of different DUP categories for positive analysis. Section 4 addresses welfare or normative implications.

2. DUP activities: Concept and taxonomy

The essential characteristic of the phenomena which this volume addresses, and which the many 'schools' of thought distinguished above analyze, is that they represent ways of making a profit (i.e., income) by undertaking activities which are directly unproductive; that is, they yield pecuniary returns but produce neither goods and services that enter a conventional utility function directly nor intermediate inputs into such goods and services. Insofar as such activities use real resources, they result in a contraction of the availability set open to the economy. Thus, for example, tariff-seeking lobbying, tariff evasion, and premium seeking for given import licenses are all privately profitable activities. However, their direct output is simply zero in terms of the flow of goods and services entering a conventional utility function. For example, tariff seeking yields pecuniary income by changing the tariff and hence factor rewards; evasion of a tariff yields pecuniary income by exploiting the differential price between legal (tariff-bearing) imports and illegal (tariff-evading) imports; and premium seeking yields pecuniary income from the premia on import licenses. [Krueger's (1974) analysis of what she christened 'rent-seeking' activities relates to a subset of the broad class of these DUP activities: she is concerned with the lobbying activities which are triggered by different licensing practices of governments.¹]

From the viewpoint of the analysis presented below, DUP activities can be subdivided into two generic types.² The distinction is between introducing policy-related DUP activity in models where the policy itself is *endogenously* determined by the interplay of the DUP activity with the otherwise orthodox

¹Her focus is on licensing/quantity restrictions and the rents thereon, and her generic set of rent-seeking activities excludes from its scope other DUP activities such as price-distortion-triggered DUP activities or distortion-triggering DUP activities. For a fuller analysis of the relationship, analytical and terminological, between DUP and 'rent seeking' activities, the reader should consult Bhagwati (1983).

²Other classifications, addressed better to other purposes, are also possible, as in Bhagwati's (1982a) synthesis of the welfare effects of DUP activities.

economic specification of the 'pure' economic system, and where the activity is embedded in a model where the policy is *exogenously* specified while the DUP activity is endogenous to that policy. Examples of the former, using tariff theory, are models where the tariff is endogenously determined; examples of the latter are models where a tariff exogenously specified to be in place leads to seeking for the revenues resulting from the tariff, and models where the tariff is evaded. The former class of DUP activities raises deeper questions for economic analysis than the latter, as we will contend below.

3. DUP activities and positive analysis

3.1. Exogenous policy

When the policy which induces DUP activity is exogenously specified, the implications of such DUP activity for positive analysis are tantamount to introducing an essentially non-traded sector into the formal model. Thus, depending on the problem and the model, the analytical conclusions derived, on which policy intuitions are based, will change. We illustrate this by briefly considering two recent DUP-theoretic analyses in tariff and transfer theory: revenue seeking in Bhagwati and Srinivasan (1980) and transfer seeking in Bhagwati, Brecher and Hatta (1982).

3.1.1. Revenue seeking and the Metzler paradox

Conventional trade theory tells us that, provided suitable convexity assumptions are satisfied, a small country will find that a tariff will necessarily increase the domestic price and hence the output of the protected good. The Metzler paradox is that, for a large country (i.e., one that can influence its terms of trade), the tariff leads to such an improvement in the international terms of trade that the tariff-inclusive domestic price of the importable good falls and hence the importable good is paradoxically deprotected. We thus have the Metzler *price* and hence, what we can christen, the Metzler *production* paradox, in the conventional 2×2 model of trade theory.

But introduce now revenue seeking. Then, as Bhagwati and Srinivasan (1980) have shown, even if the Metzler price paradox were eliminated by assuming a small country, the Metzler production paradox can obtain. Thus, consider fig. 1. $F_Y F_X$ is the production possibility curve. With free trade, this small economy would produce at P^* . With a tariff, production shifts to $\hat{P}$, implying that production of the importable good Y has increased, and consumption is at $\hat{C}$. However, if the tariff leads to DUP lobbying for the tariff revenues, then the production of goods will decline as some resources must be diverted towards revenue seeking. The equilibrium shown must therefore reflect this. If we make the so-called 'one-on-one' assumption, i.e.,

production being determined at $\hat{P}$, and earned income in revenue seeking being equal to the revenue and both adding up to OQ' as the national expenditure or budget.

Note then that Fig. 1 (as drawn) shows the production of the imported good Y at $\hat{P}$, as less than at P^* : the Metzler production paradox obtains. The conventional 'substitution' effect of the tariff does protect, taking production from P^* to $\hat{P}$; but this is more than offset by the 'income' effect of the induced revenue seeking that shifts production again, to $\hat{P}$, given that the (generalized) Rybczynski line is positively sloped in the present example.

3.1.2. *Transfer seeking and the terms-of-trade-change criterion*

An application of this analysis to the transfer problem can again be shown to change dramatically the conventional criterion for change in the terms of trade — as in the recent work of Bhagwati, Brecher and Hatta (1982).

Thus, consider the case where the transfer, instead of being received directly by consumers or given to them as a lump-sum gift as in conventional analysis, goes into the governmental budget and then leads to transfer-seeking lobbying. [In principle, we could also assume symmetrically that the donor country experiences reduced lobbying when it makes the transfer: a case we discuss later.] Also consider again the one-on-one assumption such that the transfer-seeking lobbying uses up a value of domestic primary factors *equal* in total to the amount of the transfer. This situation is analyzed in fig. 2.

Initially, the recipient country produces on its production-possibility frontier $F_y I_x$ at point P , consumes on its social indifference curve $V_y V_x$ at point C , and trades with the donor country (the rest of the world) along price line PC from point P to point C . For starters, consider the case where the terms of trade can not change.

In the small-country case, the transfer has of course no impact on the goods-price ratio. The transfer-seeking activity of lobbyists, however, causes output in the recipient to move down the generalized Rybczynski line PR until production reaches $\hat{P}$, where the value of national output has fallen by the amount of the transfer to the level represented by the price line (parallel to PC) through point $\hat{P}$. Since this value of output plus the transfer equals national expenditure, consumption remains at point C . Thus, the transfer has paradoxically failed to enrich the recipient.

In the case of a large country, the recipient's welfare could actually decline, if the marginal propensity to consume good X (along the income-consumption curve) in the donor is less than the (analogous) marginal propensity to produce this good along the (generalized) Rybczynski line PR in the recipient. In this case, the transfer at initial prices would create an excess world demand for good X , and (given stability) the relative price of

Fig. 2

this commodity would rise to clear world markets. As the equilibrium price line steepens from the initial position PC , the recipient must reach a lower indifference curve, provided that the relative price of X does not rise above the autarkic level (where an indifference curve would touch curve F_yF_x). By similar reasoning, the opposite ranking of marginal propensities would lead to a fall in the world price of good X , and hence enrichment of the recipient.

Bhagwati, Brecher and Hatta (1982) have analyzed also the *symmetric case* where the transfer-seeking DUP activity in the recipient country is matched by identical effects of DUP activity in the donor. To make the symmetry complete, they assume that the donor was initially disbursing domestically a given amount of revenue, resulting in equivalent utilization of resources in competitive subsidy-seeking lobbying; and that the subsequent international transfer payment simply reduces by an equivalent amount the subsidies subject to domestic lobbying and hence also reduces the resource-use on such lobbying equivalently. As they then show, given market stability and the above-mentioned proviso about the autarkic level of relative prices, national welfare will then improve (worsen) for the donor and worsen (improve) for the recipient *if and only if* the recipient's marginal propensity to

produce its own importable is greater (less) than the donor's marginal propensity to produce this good.

3.2. *Endogenous policy*

The endogenization of policy *via* DUP activity is also subversive of traditional intuitions. Traditionally, economists are trained to think of governments as 'neutral' in positive analysis and of economic agents to compete, perfectly or imperfectly, in alternative types of market environments. Once policy is endogenized, this tradition must necessarily be undermined. For, some or all economic agents may now also operate to have policy defined in their favour; there is a non-economic, or non-traditional, marketplace, as it were, in which economic agents can simultaneously conduct their profitmaking activities.³ We thus have *two* components of the overall model: the orthodox 'economic' specification and the 'political' specification where profit motivation may equally extend and where the economic returns accrue through induced-policy changes influencing economic returns in the traditionally 'economic' sphere of the model.

While we will deal later with the critical implication of this transformation in modelling policy for orthodox welfare-theoretic analysis, we mention here simply that, as with the exogenous-policy DUP activities analyzed earlier, the results in positive analysis are sensitive to this basic change in the way the total economic system is modelled. For example, the customary view is that, given an exogenously-specified tariff, an improvement in the terms of trade will reduce the domestic production of the importable good in an economy with given resources, well-behaved technology and perfect markets. But this conclusion need not follow, or may be seriously weakened, if the effect of the terms of trade change is to trigger tariff-seeking lobbying successfully.

While there is indeed a vast literature on 'political economy' models which endogenise policy through DUP-activity specification in a variety of contexts, several efforts of a general-equilibrium type have emerged recently in trade-theoretic literature in particular. We will give an indication here of the nature of these models by drawing on two of the early papers on tariff seeking:⁴ Findlay and Wellisz (1982), and Teenstra and Bhagwati (1982). These papers may be characterized in the following way.

- (i) Economic *agents* are defined, which will engage in lobbying. In the Findlay-Wellisz model, these are the two specific factors in the two activities in the specific-factors model and their interests are in conflict since goods price changes affect them in an opposite manner. In

³Of course, this is also true of DUP lobbying and policy-evading models we considered in the case where the policy *causing* the DUP activity was specified exogenously.

⁴The earliest, pioneering work is that of Brock and Magee (1978, 1980).

Feenstra–Bhagwati, there is only one economic agent (that hurt by import competition) which engages in lobbying, in the 2×2 Heckscher–Ohlin–Samuelson model.

- (ii) The agents lobby to have a *policy* adopted or to oppose it. In both Findlay–Wellisz and Feenstra–Bhagwati, that policy is uniquely defined to be a tariff.
- (iii) The ‘government’, as an economic agent, is not explicit in Findlay–Wellisz. The cost-of-lobbying functions which postulate the tariff as a function of the lobbying resources spent in proposing and opposing a tariff are *implicitly* assuming a government which is subject to these opposing lobbying efforts and whatever preferences the government has are reflected implicitly in the postulated function. On the other hand, in Feenstra–Bhagwati, there is a 2-layer government: the lobbying process interacts with one branch of government (e.g., the legislature) to enact a *Lobbying Tariff* whereas another branch of the government (e.g., the President in the U.S.) then comes into the picture to use the tariff revenues generated by the lobbying tariff to bribe the lobby into accepting a different, welfare-superior *Efficient Tariff* which yields to the lobby, from both the revenue bribe *plus* the earned income from the market place at the efficient tariff, the same income as from the lobbying tariff.⁵

These papers then define rather well how the theoretical analysis of endogenous policymaking can be approached in the conventional manner of economic theory. By taking a simple set of political-cum-economic assumptions, they manage to get a neat, simple model working. In fact, from a pedagogic viewpoint, the extension of the traditional $2 \times 2 \times 2$ HOS-type trade theory model to an augmented $2 \times 2 \times 2 \times 2$ model, where there are 2 lobbies and capitalists and workers engage in tariff-seeking lobbying, would be a splendid exercise. It would imply combining, suitably and easily, elements from the Findlay–Wellisz and Feenstra–Bhagwati models.

These models can also be enriched in different directions. Of particular theoretical interest is the role of the government itself. Recall that the Feenstra–Bhagwati model postulates a 2-layer view of the government, building in *both* the view (taken exclusively in Findlay–Wellisz) that the government is ‘acted upon’ by political lobbies and that the tariff becomes then a function of the resources expended (presumably in financing re-election) by the respective lobbies, *and* the view that the government acts so as to maximize a conventional social welfare function. Instead, one could well take for example the view, sometimes propounded, that the government will maximize its *revenue*, since that will maximize its patronage. If so,

⁵Feenstra and Bhagwati note that the efficient tariff may paradoxically exceed the lobbying tariff if the shadow price of lobbying activity is negative.

Johnson's classic analysis of maximum-revenue tariff yields, of course, in a conventional world where other economic agents are not engaged in lobbying, the politically-endogenous tariff.

Again, the analysis can be extended instead rather on the dimension of the *policy instruments* for which the economic agents can lobby in response to import competition. Thus, as a supplement to tariffs, one can consider policy instruments in regard to international factor and technological flows. Without formally incorporating them into a model that endogenously yields the equilibrium choice or policy-mix of instruments in response to import competition, Bhagwati (1982a, b), Sapir (1983), and Dinopoulos (1983) have analyzed the *preferences* that different economic agents could have between these instruments when faced by import competition (i.e., in improved terms of trade). Such analyses throw light on the incentives for lobbying for different policy adoptions by the government and hence yield the necessary insights into why certain policy options rather than others emerge as actual responses to import competition.

4. DUP activities and welfare analysis

Again, we will consider exogenous and endogenous policies successively.

4.1. Exogenous policies

The welfare effects of specific policies, and of parametric changes in the presence of exogenously specified policies, can be extremely sensitive to whether induced DUP activities are built into the model or not. Again, we take two telling instances.

- (i) Bhagwati and Srinivasan (1982), following on Foster's (1981) work, have shown that shadow prices for primary factors in a small, tariff-distorted open economy are different, depending on whether the tariff has or has not resulted in revenue seeking. In fact, the shadow prices can be shown to be the market prices when revenue seeking obtains.
- (ii) We will also show here that, while the conventional rank-ordering of an arbitrary $t\%$ tariff vis-à-vis a production tax or a consumption tax in a small open economy at the same rate implies that the tariff is inferior to each of the other two policies since the tariff imposes both a production *and* a consumption cost, this rank-ordering gets reversed if the different policies also result in revenue seeking!

4.1.1. Shadow prices in a tariff-distorted, small economy in cost-benefit analysis

The shadow prices for a small, tariff-distorted economy are known from

the cost-benefit literature to be derivable as the duals to the world goods prices at the distorted techniques. On the other hand, it is obvious from the fact that if revenue seeking is present, as in fig. 1, the economy operates on the national-expenditure, social-budget line defined at the market, tariff-inclusive prices. Therefore, a marginal withdrawal of factors from the distorted, DUP equilibrium will evidently imply an opportunity cost reflecting the market prices.⁶ To put it another way, with the entire revenue sought away, the consumer expenditure on goods equals income at market prices for factors. And these factor prices and goods prices do not change (as long as incomplete specialization continues), as we vary factor endowments, thanks to the tariff. As such, the value of change in the labour (capital) endowment by a unit is its market reward: hence the shadow factor prices in this DUP-activity-inclusive model are the market prices.⁷ The invisible hand strikes again!

4.1.2. Policy rankings with revenue seeking

Recall that, for a small economy, a consumption tax on the importable (production tax on the exportable) is welfare superior to a tariff at the same *ad valorem* rate since it avoids the additional production (consumption) loss associated with the tariff. It turns out that once full revenue seeking *a la* Bhagwati and Srinivasan (1980) is unleashed by the imposition of any tax, this welfare ranking is reversed. This is seen as follows.

With tariff at an *ad valorem* rate t , let the output vector of the economy be (X', Y') under no revenue seeking. Let the free-trade (i.e., zero-tariff) output vector be (X^0, Y^0) . With full revenue seeking under the tariff, consumers maximize utility given a relative price of $(1+t)$ of the importable good Y (with the world relative price normalized at unity) and income Y equal to $[X' + (1+t)Y']$. They thus derive utility $v(1+t, X' + (1+t)Y')$ expressed in terms of their indirect utility function $v(p, Y)$. On the other hand, with a consumption tax at an *ad valorem* rate t and full revenue seeking, they face the same price $(1+t)$ but an income of $(X^0 + Y^0)$, thus obtaining utility: $v(1+t, X^0 + Y^0)$. From the fact that (X', Y') maximizes the value of output given the tariff t , we get $\{X' + (1+t)Y'\} \geq \{X^0 + (1+t)Y^0\} \geq \{X^0 + Y^0\}$. Hence $v(1+t, X' + (1+t)Y') > v(1+t, X^0 + Y^0)$, i.e., a tariff with full revenue seeking is superior to a consumption tax with full revenue seeking.

The foregoing argument can be readily illustrated in fig. 3.⁸ Without any

⁶Thus, as Anam (1982) has shown, Johnson's (1967) type of immiserizing growth in the presence of a tariff is impossible when all tariff revenues are sought.

⁷If not all of the tariff revenues are subject to seeking, the shadow prices would be differently defined, as noted by Anam (1982).

⁸For an important diagrammatic analysis of a consumption tax with revenue seeking, see Anam (1982), who showed that such a tax might be welfare-inferior to a tariff in achieving a given level of consumption for one good.

Fig. 3

seeking and free trade, equilibrium production is at (X^0, Y^0) . With a tariff, production shifts at relative price ratio $(1+t)$ to (X^t, Y^t) . With tariff-revenue seeking, consumption is at C_r^t , as shown in fig. 1 also. Shift, however, to a consumption tax on good Y with attendant revenue-seeking. Production then remains at (X^0, Y^0) and the income, measured in terms of good X , is OQ , and is spent at the consumption-tax-inclusive price ratio $(1+t)$ along QC_r^c , taking consumption to C_r^c . Fig. 3 also shows production in the consumption-tax-cum-seeking equilibrium. It is given at P_r^c by the intersection of the world price line from C_r^c and the R -line which is the Rybczynski line for the world price ratio (unity) at (X^0, Y^0) . Evidently, welfare at C_r^t dominates that at C_r^c ; the tariff is superior to the consumption tax.

Consider now a comparison between a tariff at rate t and a production tax on good X yielding the same domestic relative good price as the tariff, both with attendant full revenue seeking. Under the tariff, equilibrium consumption is then at C_r^t in fig. 4. But shift now to the production tax. Income, in terms of good Y , will then be OQ as with the tariff but consumers will face the world price ratio (unity) and consumption will be at C_r^p . The production equilibrium will then be at P_r^p , the intersection between the expenditure line QC_r^p and the R -line from (X^t, Y^t) at the tax-distorted price $(1+t)$. Evidently, C_r^t dominates C_r^p ; welfare under the tariff exceeds that

Fig. 4

under an identical production tax, when full revenue seeking obtains in each case.

The intuitive explanation of these results is evidently that, with no revenue seeking, a consumption (production) tax generates more revenue than a tariff at the same rate,⁹ the reason being that the offsetting production (consumption) subsidy effect of a tariff is absent. In effect, what we are getting into is a situation where there are two distortions, rather than one, associated with each of the policies being ranked: the direct distortion implied by the policy itself and the indirect distortion implied by the (induced) DUP activity. What is interesting in the specific policyrankings considered here is that these rankings are still possible, and in fact get reversed, when the indirect DUP effect is considered!

From a welfare-theoretic viewpoint, therefore, the analyst has to be alerted to the possibly critical role that (policy-induced) DUP activities can play in analyzing policies and hence in determining desirable policy intervention. This conclusion is also dramatically highlighted by the welfare-theoretic analysis of transfers. Thus, revert to our discussion of the DUP-theoretic transfer problem in section 3 and to fig. 2. Recall that, in the traditional 2×2

⁹See also Anam (1982) on this point.

(non-DUP) framework, exacting a reparation payment will always be enriching for the recipient of the resulting transfer in a Walras-stable market. Once, however, full transfer seeking is permitted, this is no longer so! Thus, take the case of a 'large' recipient country, as discussed above in fig. 2. If the terms of trade worsen in this DUP-activity-inclusive 2×2 model, that is *sufficient* to immiserize the recipient in a Walras-stable market whereas by contrast such deterioration in the terms of trade cannot ever be large enough to offset the primary gain from the transfer in a Walras-stable market in the orthodox non-DUP-activity 2×2 model.

We therefore need to re-examine a number of policy intuitions if policies induce DUP activities in the real world, as they indeed do. The world lies somewhere along the continuum defined by two end points: one where no DUP activity is induced and the other where DUP activity is induced fully (on a one-to-one basis).¹⁰ But while we have charted reasonably in depth the former end, we are only beginning to understand and sketch the latter end. An agenda for research to map out the latter landscape clearly awaits a new generation of researchers in all branches of economic theory.

4.2. Endogenous policy

A far more critical question is raised, however, once you fully endogenise policy in DUP-theoretic models. Exploiting our comparative advantage, we may consider again a trade-theoretic example to raise and probe this issue.

Take a tariffseeking model of any species that you prefer. The endogenous tariff that emerges then in such a model may be illustrated in fig. 5. $F^{ex}F^{ex}$ is the production possibility curve when all resources are deployed for producing X and Y and an *exogenous* tariff leads this small economy from P^* at given world prices to $\hat{P}^{ex}$ under protection. But now the model is augmented to endogenise the tariff and, in equilibrium, resources are used up in tariff-seeking DUP activity and the tariff-inclusive equilibrium is at $\hat{P}^{en}$. The production possibility curve $F^{en}F^{en}$ is a hypothetical construct, taking the endowment of factors as *net* of those used up in tariff seeking *equilibrium*: the tariff-inclusive goods price ratio must therefore be tangent to it at $\hat{P}^{en}$. It is assumed, of course, that revenue-seeking-induced DUP activity is not simultaneously present here.¹¹

Now, as Bhagwati (1980) has shown, if we wish to measure the cost of protection in this endogenous-tariff model, the appropriate way to do it would be to put the world price ratio tangent to $F^{en}F^{en}$ at $\hat{P}^*$ and then, using the Hicksian equivalent-variational measure, to take the move from $\hat{P}^{en}$

¹⁰The latter end point may even be more drastic if, as Tullock (1981) has suggested, seeking leads to more resources being spent on chasing a prize than the value of the prize itself, depending on how you model the terms and conditions of such a chase.

¹¹See Tullock (1981) and Bhagwati (1982b) for analysis of the case where however this DUP activity is simultaneously present.

Fig. 5

to $\hat{P}^*$ as the standard production cost of protection (reflecting the distortion of prices faced by producers) and the further move from $\hat{P}^*$ to P^* as the added cost of tariff-seeking lobbying (reflecting the loss due to resource diversion to lobbying). Hence the *total* cost of protection in an endogenous-tariff model would be AF , reflecting the comparison between the free-trade-equilibrium position at P^* and the endogenous-tariff-equilibrium position at $\hat{P}^{en}$. In turn, it is decomposed then into AB , the conventional 'cost of protection', and BF , the 'lobbying cost'. It might be appropriate perhaps to christen the total cost as the cost of the 'protectionist process', to avoid confusion between AF and AB .¹²

While this analytical innovation to extend the traditional cost-of-protection analysis to the case where the tariff is endogenous may be applauded, it raises the deeper question that we now wish to address.

¹²Bhagwati (1980) also shows that it is incorrect to argue that the cost of an endogenous tariff at $t\%$ always exceeds the cost of an exogenous tariff at $t\%$. This proposition involves comparing $\hat{P}^{ex}$ with $\hat{P}^{en}$, and, since this is a second-best comparison, the endogenous tariff can be less harmful than the exogenous one. This is also at the heart of the problem with the Buchanan-Tollison definition of DUP activities, as discussed in Bhagwati (1983).

Once the tariff is endogenised, it will generally be determined uniquely as at $\hat{P}^{en}$ (though, of course, multiple equilibria can be introduced as readily as in conventional 'strictly-economic' models). To compare this outcome with a hypothetical free-trade policy leading to P^* is to compare a policy choice that is made as a solution to the entire, augmented economic-cum-policy-choice system with a wholly hypothetical policy that descends like manna from heaven! Such a comparison makes obvious sense, of course, when we take policies as exogenous: we are then simply varying them, given the conventional economic system, and reading off their welfare consequences. But, with only one policy outcome determined endogenously, the comparison between it and another hypothetical policy arrived at by exogenous specification, while of course possible, is not compelling. It is virtually as if we had wiped out one (the 'political') side of our model for our point of reference!

It would appear therefore that we need to *change* the way we pose welfare-theoretic questions once policies are endogenised critically, as in the foregoing analysis. Thus, it is not particularly meaningful to rank-order policies as in traditional analysis, once policies are endogenous. Nor is it appropriate to compare them vis-à-vis a reference point (such as P^* in fig. 3) which reflects an exogenously-specified policy.

Rather, it would appear that the analyst must now shift focus and concentrate on *variations around the endogenous equilibrium* itself (i.e., around $\hat{P}^{en}$ in fig. 3). Thus, it is customary to ask what happens, given a policy, to welfare when accumulation comes about, or when technical knowhow changes, etc. We can rephrase these questions as follows, keeping in mind that there are now two parts of the overall economic system: 'economic' and 'political': what will happen to welfare if, on the economic side of the model, these changes such as accumulation, technical progress etc. occur; and what happens if changes occur instead on the political side such as an increased cost of lobbying for a tariff if there is an exogenous shift in attitudes against protection?¹³ In short, the overall system must be solved for endogenous policy change and for final welfare impact for parametric changes that can occur now *either* in the 'economic' or equally in the 'political' side of the overall, augmented system. An interesting way to decompose the overall welfare impact of such parametric changes in either the 'economic' or the 'political' side of the system could be to assume first that policy does remain exogenous and then, in the next stage, to allow it to change to its endogenous value. The first stage should capture the essence of what we have come to think of as the customary impact of a parametric change in the system; the second stage can be taken to correspond to the fact that policy is endogenous.

¹³On this point, see Brecher (1982).

5. Concluding remark

Evidently, therefore, the integration of DUP activities into theoretic analysis is a serious business. We hope that we have raised the issues sufficiently sharply to stimulate the response of our fellow economists in the shape of future research on what promises to be an extremely important innovation in economic theorising.

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