

# The New Protectionism

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*THE NEW PROTECTIONISM demands a new theory of protection. The traditional theory of protection is preoccupied with the consequences of a once-and-for-all change in the general level of protection in a competitive environment. More recent work focuses upon the consequences of such once-and-for-all changes in imperfectly competitive environments. Neither comes to grips with prominent features of contemporary experience. As a result a new theory is beginning to emerge.*

*This paper discusses the distinctive properties of the new protectionism and contrasts these with the central concerns of the traditional theory of tariffs and of the newer imperfectly competitive theories. A sketch of a theory of antidumping laws provides an illustration.*

## 1. The Theory of the New Protectionism

The traditional theory reflects traditional experience. Before World War Two the exercise of commercial policy, in the United States and elsewhere, consisted primarily of a (once-and-for-all) revision of a country's basic tariff law. This corresponded nicely to the traditional theory's focus upon the effects of an exogenous permanent change in the overall level of protection.<sup>1</sup> The Theory remained naturally relevant to the dominant post-war experience: the successive GATT rounds of multilateral reductions of permanent tariffs, in an environment that discouraged nontariff barriers. But recent experience has increasingly been at odds with this picture.

The measures commonly identified as examples of the "new protectionism" do not involve permanent changes in the national level of protection. Rather they involve applications of a limited number of well-defined statutes (notably the antidumping

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1. See Jones (1969) for a convenient statement.

and countervailing-duty laws, safeguard provisions, and unfair trade practices acts), together with temporary ad-hoc responses to protectionist pressures (voluntary export restraints).

The more recent literature has departed from the traditional theory most notably in its consideration of imperfect competition.<sup>2</sup> Since there is little reason to think that imperfect competition, in an historical context, has become significantly more important in recent years, it is by no means clear what has motivated this development. One fears that it is at bottom a desire to respond, in our own feeble way, to the notable activity taking place in the field of industrial organization and related theory. International economists are an insecure lot. But one hopes that it was, instead, a desire to try to make sense of public arguments that make no sense in a competitive context. Whatever its motivation, the recent literature, despite the insights that it has given us, also fails to come to grips with some essentials of the new protectionism.

What are these essentials? Two stand out. First, the new protectionism consists of rules calling for a protectionist response under certain circumstances, as opposed to the *tariff rates*, or other measures, that are the object of analysis of both the traditional theory and the newer literature. These rules might be fairly explicit (e.g., the antidumping and countervailing-duty laws) or very implicit (temporary ad-hoc responses to protectionist pressures). But the uncertainty of application of the rules is a general phenomenon. Even those which are most explicit, such as an antidumping law, are subject to considerable uncertainty in application. Indeed changes in the degree of uncertainty constitute a major exercise of the new protectionism--analogous to once-and-for-all changes in Tariff rates in the traditional theory. Successive revisions in the basic laws illustrate this quite well.

The second essential feature of the new protectionism is that the measures called for by the rules are *temporary* rather than once-and-for-all. This also involves considerable uncertainty in practice. Sometimes temporary measures linger around for quite a while; sometimes they fail to produce their desired effects at all. But they are commonly enacted as temporary measures.

Traditional analysis applied to, say, the escape clause, would consist of the comparison of an equilibrium in which the clause has been permanently invoked with an equilibrium in which it has not, and is not expected to be. This has value. But we also need an analysis of the implications of the existence of the clause over time, both in periods when it is not being used and in periods when it is.

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2. Major contributions include a series of papers by Brander and Spencer (1984, 1985).

One implication of the above two features is the relevance of time consistency for commercial policy. The actions called for by the rules may or may not turn out to be in the subsequent interests of the authorities to take. Much of the successive tightening in recent decades of some of the main instruments of the new protectionism can indeed be interpreted as attempts to circumvent the time-consistency problem by tying the hands of the authorities. It is ironic that, though the notion of time consistency has received extensive attention in macroeconomics and little in the study of trade policy, it has been much more relevant to practical debate in the latter than in the former field. Time consistency is relatively less important for the more explicit tools, such as the antidumping and countervailing-duty laws, than for the more implicit ones. The idea is relevant to industry as well as to government: protection is sometimes partly the result of negotiations between firms and the authorities, with the former promising something about future performance (modernization, minimum employment, and so on) in return for temporary protection.

Though the two above features are largely absent from both the traditional theory and the newer imperfect-competition developments, they have received some recent attention, and related studies have been around for some time. The literature on potential trade disruption<sup>3</sup> is very much in this spirit, as is that on tariffs as insurance.<sup>4</sup> Recent unpublished contributions, dealing entirely or in part with what we call the new protectionism, include Fischer (1986), Smith (1986) and Tornell (1986). Thus an emerging theory does exist. What we still lack are systematic treatments of the principal tools of the new protectionism, emphasizing the two aspects identified above.

The remainder of this paper attempts to illustrate what is involved. The attempt takes the form of a sketch of a theory of antidumping laws.

## II. Antidumping Laws

An antidumping law provides for tariffs in response to dumping: the sale of imports at a price below their cost or the price in the country of origin. Analysis of such a law requires a model in which dumping can arise.<sup>5</sup> This paper utilizes a

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3. See Bhagwati and Srinivasan (1976), Mayer (1977), Kemp and Ohta (1978) and Arad and Hillman (1979).

4. See Eaton and Grossman (1985) and Dixit (1986).

5. Theoretical treatments of dumping have given surprisingly little attention to the effects of antidumping laws. See, for example, Ethier (1982) and Hillman and Katz (1986).

simple standard model of international oligopoly.<sup>6</sup>

There are  $n$  home firms and  $n^*$  foreign. The foreign firms export to the home market, but a foreign tariff rules out home exports and neexports to the foreign market. Consider a Cournot-Nash equilibrium in which each domestic firm chooses its supply to maximize its profit  $\pi$  and each foreign firm chooses its supplies  $x$  and  $x^*$  to the home and foreign markets respectively, to maximize its profit  $\pi^*$  :

$$\begin{aligned}\pi^*(x, x^*; y) &= p(z)x + p^*(z^*)x^* - F^* - c^* \cdot (x + x^*) \\ \pi(y; x) &= p(z)y - F - cy\end{aligned}$$

where  $z = ny + n^*x$  (total sales in the home market),  $z^* = n^*x^*$  (sales abroad),  $p(z)$  and  $p^*(z^*)$  are inverse demand functions in the two markets,  $C(y) = F + cy$  is the cost function of each home firm and  $C^*(x + x^*) = F^* + c^* \cdot (x + x^*)$  is the cost function of each foreign firm.

A first-order condition for foreign-firm profit maximization is :

$$\pi_x^* = 0, \text{ or}$$

$$(FFE) \quad \frac{p}{c^*} = \frac{\varepsilon}{\varepsilon - (1 - \theta)/n^*}$$

where  $\theta = ny/z$ , the share of home firms in the home market. Also,

$$\pi_{x^*}^* = 0 \quad \langle \Rightarrow \rangle \quad \frac{p^*}{c^*} = \frac{\varepsilon^*}{\varepsilon^* - 1/n^*}$$

So :  $p^* > p \quad \langle \Rightarrow \rangle \quad \varepsilon > \varepsilon^*(1 - \theta)$ , the condition for dumping on the price discrimination definition.<sup>7</sup>

Also, the first-order condition of each home firm is

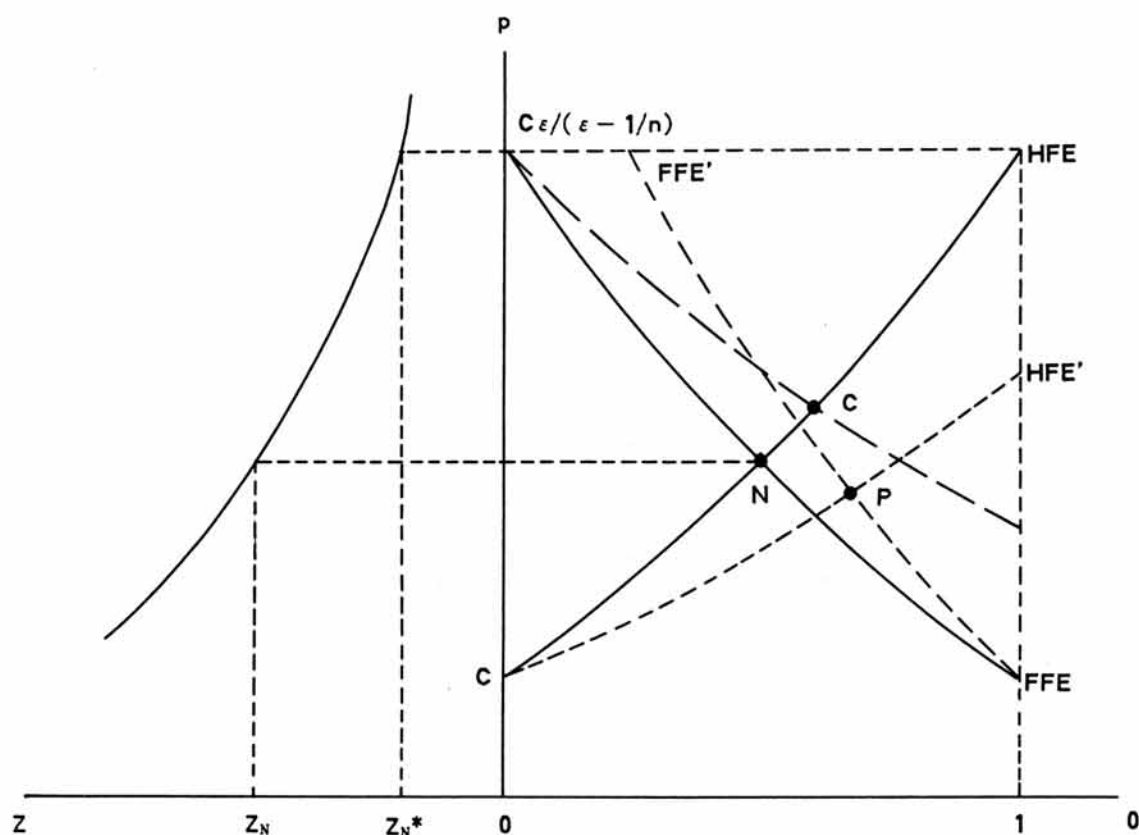
$$(HFE) \quad 0 = \pi_y \quad \langle \Rightarrow \rangle \quad \frac{p}{c} = \frac{\varepsilon}{\varepsilon - \theta/n}$$

6. Ethier (1982) argued that factor-market behavior is central to much contemporary dumping. But this need not be considered for the purposes this paper attempts to illustrate, and use of the oligopoly model will relate the discussion to come directly to the recent imperfect competition literature. See Eichengreen and van der Ven (1984).

7.  $\pi^*$  and  $\pi$  vary directly with  $F$  and  $F^*$ , and  $F^*$  could be such that  $p^* - c^* - F^*/x^* > 0 > p - c^* - F^*/x$ , so dumping according to either criterion is possible.

Assuming that  $\epsilon$  and  $\epsilon^*$  are constant, the Foreign Firm Equilibrium curve (FFE) gives a negative relation between  $p$  and  $\theta$ , while the Home Firm Equilibrium curve (HFE) gives a positive relation. Equilibrium is point  $N$  in Figure 1.<sup>8</sup>

Figure 1



Now suppose that the home country has an antidumping law. How is the equilibrium of Figure 1 affected by its existence? This question is to be distinguished from the traditional one of how the equilibrium is affected by a permanent tariff.

The implications of the law obviously depend upon how credible it is. The antidumping laws of most countries have been virtually unenforced for extended periods in

8. To limit clutter, the figure is drawn on the assumptions that  $\epsilon = \epsilon^*$ , that  $c = c^*$  and that  $p(z)$  and  $p^*(z^*)$  are identical functions.

the past; changes in the U.S. law in recent decades can be viewed as a series of attempts to increase its credibility. This suggests we examine alternative possibilities.

(I) *Non-credible*. Suppose first that everyone expects, correctly, that the law will not be enforced at the unconstrained  $p, p^*$ . Then it will obviously have no effect and the above description of equilibrium applies.

(II) *Completely credible*. Suppose, at the other extreme, that everyone is certain the law will be enforced with a strong penalty. That is, foreign behavior will be constrained by  $p \geq p^*$  if dumping is defined on the price discrimination basis, by  $(x+x^*) [p(z)-c^*] \geq F^*$  if it is defined on the cost of production basis, and by both constraints if, as in the U.S., the law allows either definition. If the above solution meets the relevant constraint(s) anyway, the law again has no effect. Otherwise, the typical foreign firm will be constrained in its maximization of  $\pi^*$ , and the law will alter equilibrium, *even though it is never actually invoked*.

For illustration, suppose dumping is defined on the price-discrimination basis. When the law is binding, the foreign firms' problem is to maximize  $\pi^*$  subject to  $p(z) = p^*(z^*)$ . This constraint gives  $x^* = x^*(x)$ , where

$$\frac{dx^*}{dx} = \frac{p^*}{p^*} = \frac{z^*}{z} \frac{-p'/p}{-p^*/p^*} \frac{z}{z^*} = \frac{z^*}{z} \frac{\epsilon^*}{\epsilon}, \text{ or } \frac{\hat{x}^*}{\hat{x}} = (1-\theta) \frac{\epsilon^*}{\epsilon}$$

where " $\wedge$ " denotes proportional change. The *FFE* now curve becomes

$$p = c^* \frac{\epsilon}{\epsilon - \frac{1}{\pi^*} [1 - \theta + \frac{z^*}{z}] / [1 + \frac{\epsilon^*}{\epsilon} \frac{z^*}{z}]}$$

Thus imposing the constraint shifts *FFE* up if and only if

$$\frac{1}{\pi^*} [1 - \theta + \frac{z^*}{z}] / [1 + \frac{\epsilon^*}{\epsilon} \frac{z^*}{z}] > \frac{(1-\theta)}{\pi^*}$$

which is equivalent to:  $\epsilon > \epsilon^* (1-\theta)$ , i. e., to whether the constraint is indeed binding. Thus *FFE* shifts up, so  $p$  and  $\theta$  both rise. The new equilibrium is given by point C in the figure. Clearly,

$$P_C > P_N, \theta_C > \theta_N, z_C < z_N, p_C^* < p_N^* \text{ and } z_C^* > z_N^*.$$

Foreign consumers are better off and home consumers worse off. Home firms have larger profits. They supply a larger fraction of a smaller home market; it is possible that, despite their increased market power, they actually increase sales. Foreign firms have lower profits in the foreign market, but their profits from the home market may rise or fall, and may conceivably rise enough to increase their profits overall, so that

the law is actually welcomed by all firms in both countries.<sup>9</sup> Each foreign firm is constrained by the law in the sense that it could do better without it, *given the sales of its rivals*. But the law reduces all foreign sales in the home market, i. e., it substitutes for foreign collusion.

National welfare in each country is determined by the consumption distortion and the profits earned by foreign firms in the domestic market. The former effect is always negative at home and positive abroad. Thus when foreign firms increase their profit in the home market, home welfare declines and foreign welfare rises, even if the overall profit of foreign firms falls. But when the home profits of foreign firms declines, the overall welfare effects are ambiguous in both countries. It is conceivable that the antidumping law could raise home welfare and reduce foreign welfare.

(III) *Partially credible*. No credibility has probably been a reasonable approximation to reality at some times, and complete credibility has probably never been. Partial credibility, with all firms uncertain about how the law will actually be enforced, is no doubt the most relevant case. One might conjecture that this would be some sort of weighted average of the two extremes considered thus far. But this is not so: partial credibility introduces fundamentally new considerations.

The law might be partially credible because firms are uncertain about whether it will actually be invoked, and also because they are uncertain about the measures to be taken if it is in fact invoked. For simplicity, consider only the former.<sup>10</sup> Thus far we have focused on the antidumping law as a rule, rather than as a tariff. Now the temporary aspect -- the second basic feature of the new protectionism -- comes into play. If foreign firms dump today they may be penalized tomorrow, for a limited time. We are concerned about how this possibility influences today's equilibrium.

Tomorrow might be characterized by a penalty in force, or it might not. In each case we can calculate the expected value of all future profits -- discounted to today -- for the typical foreign firm. Let  $K^*$  denote the excess of this value in the case where the penalty is not in force over the case where it is. Similarly, let  $K$  denote the excess of today's discounted value of all future profits for a typical home firm in the case where the penalty is in force (tomorrow) over the case where it is not.<sup>11</sup>

9. Such a possibility is a prominent theme in the recent literature on protection with imperfect competition and so will not be pursued here. See Harris (1985) and Krishna (1984).

10. The analysis to follow can equally well be interpreted as applying to the latter form of uncertainty, but not to both simultaneously.

11. Details about  $K$  and  $K^*$  would of course require explicit modelling of the future multi-period equilibrium. But the reduced form is sufficient for what follows. The nature of the multi-period equilibrium would be sensitive to the equilibrium concept employed, and one would expect multiple equilibria for some concepts. Thus  $K$  and  $K^*$  may not be uniquely defined.

A characteristic of a partially credible law is that both  $K$  and  $K^*$  are positive.

A second characteristic is that firms are uncertain about whether a penalty will be imposed. Suppose that the likelihood of such an event is an increasing function of the dumping margin:  $\phi(p^*/p)$ . That is,  $\phi$  denotes the probability (today) that an antidumping penalty will be imposed (tomorrow), given today's prices  $p^*$  and  $p$ .

Presumably each firm wishes to maximize the expected value of all future profits, discounted to the present. That is, the typical home and foreign firms wish to maximize:

$$\begin{aligned}\pi^*(x, x^*; y) &= p(z)x + p^*(z^*)x^* - F^* - c^* \cdot (x + x^*) - \phi(p^*/p) K^* \\ \pi(y; x) &= p(z)y - F - cy + \phi(p^*/p) K.\end{aligned}$$

These expressions imply the following formulae for the *FFE* and *HFE* curves.

$$[FFE'] \quad p = c^* \frac{\epsilon}{\epsilon - \frac{(1-\theta)}{n^*} \left[ 1 + \int \frac{\phi K^*}{x} \right]}$$

$$[HFE'] \quad p = c \frac{\epsilon}{\epsilon - \frac{\theta}{n} \left[ 1 - \int \frac{\phi K}{y} \right]}$$

where  $\int = p^*\phi'/p\phi$ , the elasticity of  $\phi$ . Clearly the *FFE* curve shifts up, as in the completely credible case, and the *HFE* shifts down. The partially credible equilibrium is shown as point  $p$  in the figure. The market share  $\theta$  of domestic firms must rise, but the effect on the domestic price is ambiguous.

It is evident from the expressions for *FFE'* and *HFE'* that a partially credible law acts by adding to the individual-firm elasticity aspect of marginal revenue the term  $\int \phi K^*/x$ , for the foreign firm. This equals the increased expected penalty per foreign firm resulting from a one percent fall in the domestic price. The effect on the home firms is analogous.

A partially credible law has much the same qualitative effect on foreign firms as a completely credible law: they become more competitive in their own market and less competitive abroad. But the effect on home firms is an entirely new element. They now have an incentive to behave more competitively, thereby forcing their foreign rivals to choose between an increased likelihood of being penalized or withdrawal from the market. The two effects reinforce each other as regards the struggle for profits



profits between home and foreign firms: they both tend to shift profits from the latter to the former. But the two effects work at cross purposes as regards the distortion in the home market, with the foreign-firm retreat exacerbating the distortion and the home-firm advance ameliorating it.<sup>12</sup> It is possible that the net effect the law could actually be to reduce  $p$  relative to the no-law case. If so, the home country benefits both from a larger profit share and a less distorted home market.

A partially credible law might increase home welfare when a perfectly credible law would not, and it is possible that it would be best for the home country that its law be less than completely credible. The geometry indicates this is more likely the larger is the shift in  $HFE$  relative to the shift in  $FFE$ . The algebra in turn indicates that this is associated simply with large values of  $K$  relative to  $K^*$ .

### III. Concluding Remarks

The above analysis is clearly incomplete. In the partially credible case, we examined the consequences of the law when a penalty was not in force, but not for when it was being applied. Analysis of the latter would be necessary for a full multi-period discussion. By replacing such a discussion with a reduced form we avoided a treatment of the role of time consistency.<sup>13</sup> In addition, normative aspects have been only hinted at, alternative equilibrium concepts should be investigated, and a host of potential comparative-static exercises suggest themselves.<sup>14</sup> Furthermore, alternative versions of actual laws and alternative models of dumping itself need to be looked into. Nevertheless the above sketch does suggest what analysis of the new protectionism should look like. In addition to a fuller treatment of antidumping laws, we should undertake a formal analysis of the three or four other principal tools, of the new protectionism.

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12. See Fischer (1986) for a more detailed discussion of the partially credible case.

13. This is natural in a cursory treatment of an antidumping law, where considerations of time consistency seem relatively unimportant. But we would have proceeded quite differently for even a sketch of some of the more implicit tools of the new protectionism.

14. Fischer (1986) investigates some of these questions.

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