Chapter 6 Update: Trade Policy Analysis

Kenneth A. Reinert, *An Introduction to International Economics: New Perspectives on the World Economy*, Cambridge University Press, 2012.

Note: This update corrects an error in the original text regarding the terms-of-trade effect in the imperfect substitutes model.

Appendix: The Imperfect Substitutes Model

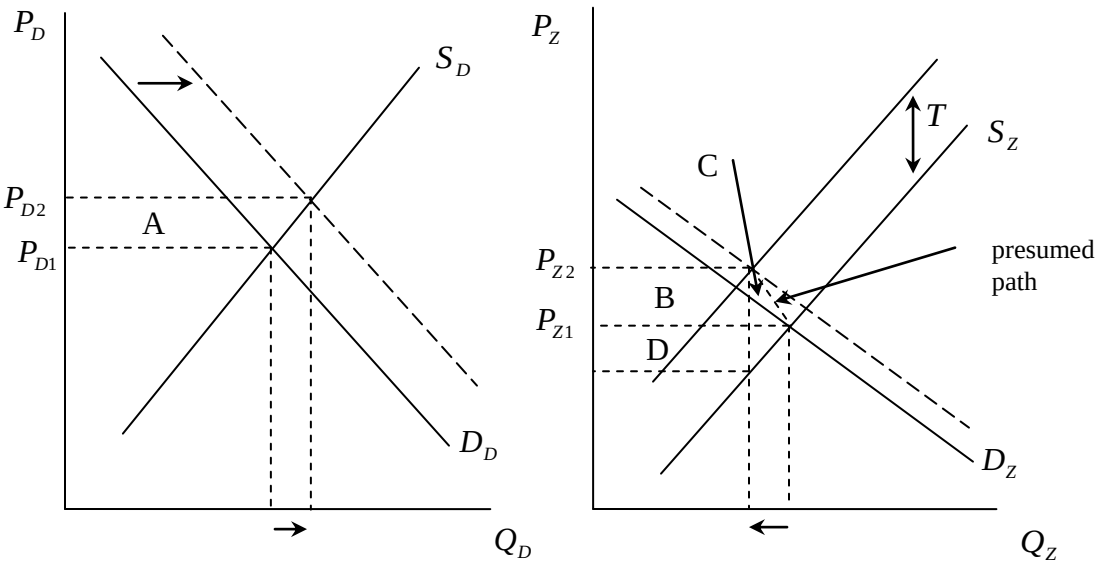
The absolute advantage model used in this chapter assumes that the imported good and domestic competing goods are perfect substitutes. In a number of instances, however, trade policy analysts want to allow for the possibility that the imported and domestic competing goods are *imperfect* substitutes.[1] This leads us to what is now known as the imperfect substitutes model depicted in Figure 6.5.[2] This figure allows for the terms of trade effects described in this chapter.

The important difference between Figure 6.5 and those previously considered in this chapter is that there are now *two* closely-related markets, one for the imported good Z and another for a domestic competing good D. The demand curves for these two markets are related through the cross-price elasticity of demand between the two goods. The initial equilibrium in the absence of a tariff results in the two prices P_{Z1} and P_{D1}. The imposition of a specific tariff T on imports of good Z causes the supply curve of this good to shift upward by the amount of the tariff, raising the domestic price of the imported good along the demand curve. The increase in the price of good Z affects the demand for good D, shifting the curve out as households substitute towards the domestic good. This increases the domestic price of good D, which in turn causes a substitution towards good Z and a shift out of the demand curve for imports. These two substitution effects are *simultaneous*, and the resulting, new prices are P_{Z2} and P_{D2}.

[1] This is one type of product differentiation known as *product differentiation by country of origin* that is related to explanations of intra-industry trade we discussed in Chapter 4. An early contribution to this approach was Armington (1969).

[2] The original contribution on this model was Baldwin and Murray (1977). A more explicit version was provided by Rouslang and Suomela (1988).

Figure 6.5 The Imperfect Substitute Model



We next consider the welfare effects of the tariff in this imperfect substitutes framework. In the market for the domestic good, there is an increase in producer surplus along the supply curve equal to trapezoid A (extending from the vertical price axis all the way to the supply curve). This entire area, however, comes as a cost to the consumers, with the producer gain and the consumer loss exactly offsetting each other. In the market of the imported good, there are no domestic producers to account for. The estimation of the consumer welfare effect is troubled by the fact that both the supply curve and the demand curve in the market for good Z have shifted. The standard approach to this is to measure the change in consumer surplus along the presumed path between the initial and final equilibria points. The resulting consumer surplus loss is the trapezoid B+C. Rectangle B represents part of the increase in tariff revenue, the total of which is B+D.

One important aspect of Figure 6.5 is that, discounting for the effect of the shift of the demand curve, the rise in the domestic price of the imported good is less than the tariff. This is because there is a movement in world quantity supplied down S_Z and a resulting decline in the border price of the imported good. This is the terms-of-trade effect we discussed in Figure 6.3 of this chapter. The terms-of-trade effect has the property of reducing the height of the net welfare triangle C and is present unless the import supply curve S_Z is horizontal or perfectly elastic. Area D represents a terms-of-trade gain, and the net welfare effect in Figure 2 is area D-C. The more horizontal is the import supply curve S_Z, the smaller is area D.

This might seem to be a more complicated approach to trade policy analysis than the perfect-substitutes case of Figures 6.2 and 6.3. However, the approach is *widely used*, particularly in the analysis of AD and CVD cases by national governments. For this reason, it is very much worth understanding.