Answers to Questions from Chapter 9

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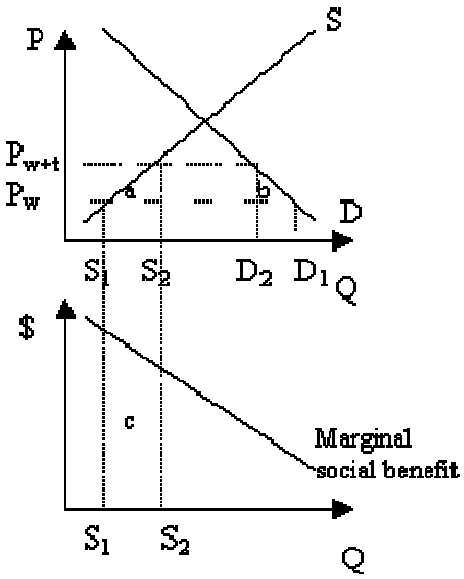


(1) In general, the optimal tariff for a small country is zero because it cannot impact world prices. The internal price will rise by the full amount of the tariff (t) because the country is too small a buyer on world markets to lower the price of foreign exports. If the small country imposes a tariff it loses area a (overproduction efficiency loss) and area b (under consumption efficiency loss). However, this traditional analysis of an import tariff does not consider the presence of market failures in the domestic economy.

For example, the production of the import-competing good may improve knowledge of manufacturing techniques, which improves the production processes in other sectors of the economy. This spillover of knowledge was not considered in the previous argument. The increased production of the import-competing good (S_2-S_1) yields social benefits that are measured by the area c in the related diagram. If area c is greater than the efficiency losses in areas a and b, then a tariff that encourages additional production of the import-competing good increases the small country's welfare.

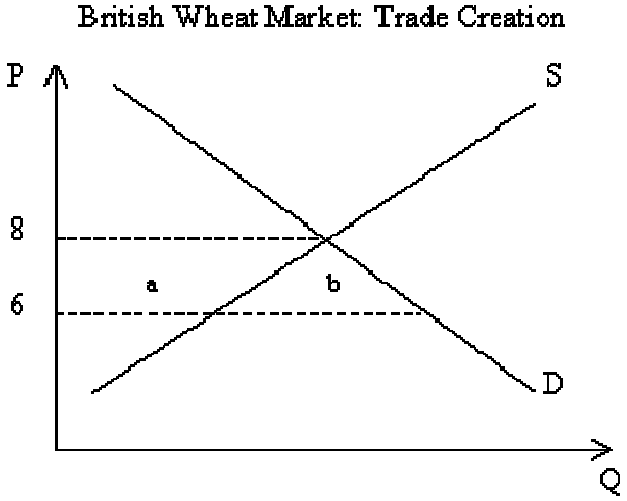
However, economists continue to support free trade --even in the presence of domestic market failures. Using a trade policy to solve the domestic spillover is second best. The government should address the problem directly with a production subsidy to import-competing producers. This eliminates the under consumption loss (area b) associated with the tariff.

(2) In order to determine the welfare effects of a customs union let's examine the wheat market in three countries: U.S., France, and Britain. Each country has the following costs of wheat production:

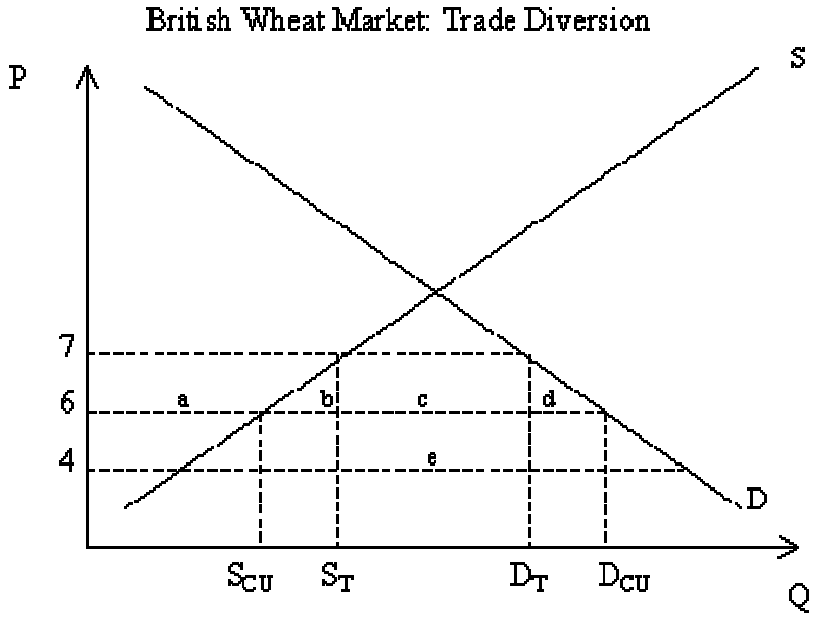
Country	Cost per bushel
U.S.	4 dollars
France	6 dollars
Britain	8 dollars

The U.S. is the most efficient producer, while Britain is the least efficient producer. First, consider a case where the formation of a customs union between Britain and France improves the welfare of the British. If Britain's initial tariff was $5 per bushel, then wheat imports are excluded from both the U.S. and France. British consumers prefer to buy from domestic producers at a price of $8 per bushel rather than paying $9 for American wheat or $11 for French wheat. When the tariff on French wheat is removed, imports from France will replace some British production and British consumers gain because they can purchase wheat for the cheaper price of $6 per bushel. The gains from trade creation are shown below graphically. British producers lose area a, but consumers gain area ab, raising overall welfare by area b.

Instead, consider a case where Britain is worse off after joining the customs union. If the tariff on wheat imports was not prohibitive (e.g., $3 per bushel), then British consumers buy wheat from the U.S. for $7 per bushel. When Britain enters a customs union with France, the tariff on



French wheat is removed, reducing the price of wheat imports from France from $9 to $6 per bushel. Now Britain will divert its imports from the U.S. (the least cost producer) to France (a medium cost producer). Britain is now worse off because it loses the tariff revenue from the U.S. imports (area ce) and must devote more resources to pay for the higher levels of wheat imports under the customs union.



Overall, Britain will gain from the formation of a customs union if it leads to new trade. Alternatively, Britain will lose if trade within the customs union replaces trade with countries outside the union.