

## Chapter 8 Trade Policy

### Question 8.4

Consider the production process of cars in China, which uses steel as an intermediate input as summarised in the table below.

Good	World price	Tariff (%)	Domestic price
Cars	100	20	120
Steel	60	10	66
Available for processing stage	40	35	54

The Chinese government wants to promote the local manufacturing of cars and is searching for ways to improve the competitive position of its car industry.

8.4A Which tariff (on car imports or steel imports) should the government increase, in order to stimulate the local production of cars in China?

The United States and Japan object to the protective tariffs on the Chinese car market, which forces their firms to either build factories in China (to circumvent the import tariff) or to lose market share relative to domestic producers. After an intense lobbying process the Chinese government reduces the tariff on cars to 17 percent.

8.4B What should the Chinese government do to keep the effective rate of protection on the local production of cars constant (at 35%)?

8.4C Is it possible for the Chinese government to impose a negative effective tariff on the local production of cars? If so, how?

### Question 8.5

The government of Zombio (see question 8.2) could also decide to give a production subsidy to the food industry to protect the national food sector. You are asked to evaluate this per unit subsidy  $s$ , which increases the return per unit of output for the producers of food to  $p_{food}(1+s)$ .

8.5A Draw the new budget constraint and the new production point after the introduction of the subsidy in a general equilibrium framework (use the graph of question 8.3 as your starting point).

We assume that world prices are unaffected by the subsidy (Zombio is a small country and has a negligible influence on world prices). Moreover, the government taxes the consumers to pay for the subsidy and balance the budget. Note that the consumers continue to pay world prices.

8.5B Draw the new budget constraint at world prices as well as the new consumption point. Assume that preferences are identical and homothetic. Does the consumption of food increase or decrease after the subsidy?

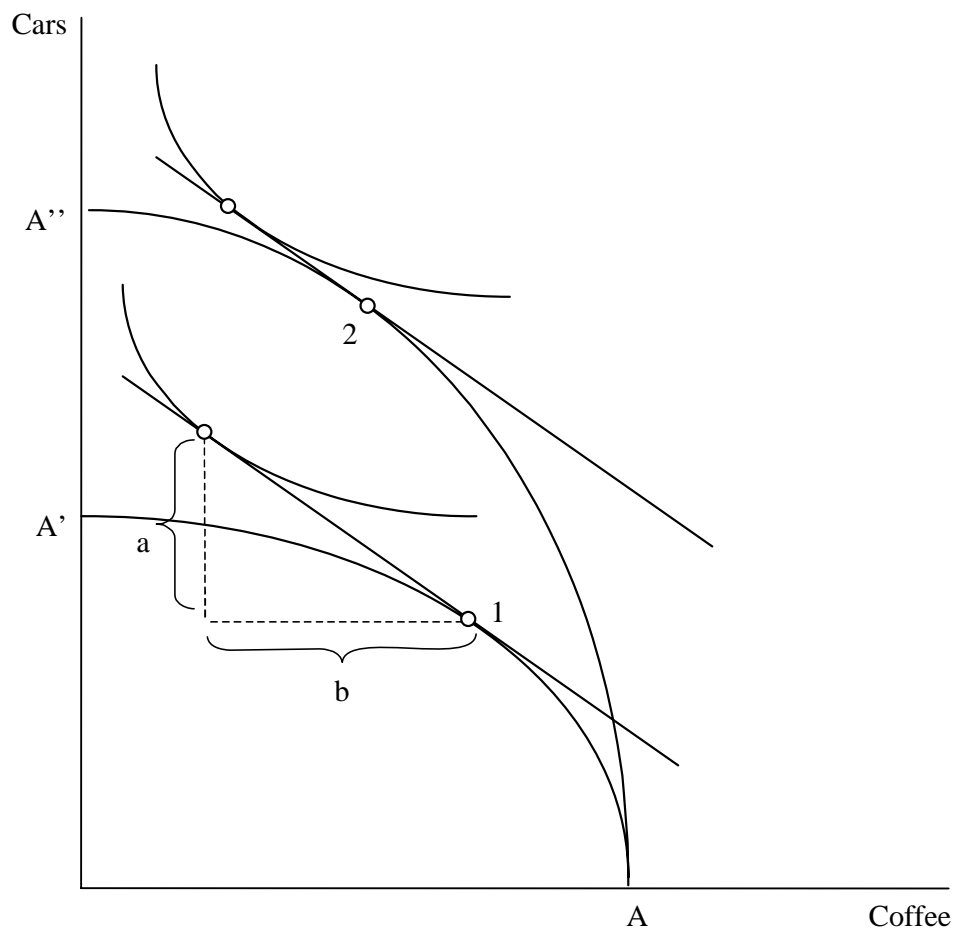
8.5C According to section 8.4 imposing a tariff leads to a double distortion. Is a production subsidy as distortive as a tariff?

### Question 8.6

Import substitution is a development strategy based on the 'infant industry' argument, which temporarily protects a relatively young sector from foreign competition to give this sector the chance to 'grow up' and become more productive.<sup>1</sup> During the (short?) time period of protection the sector can, for example, educate its workforce or improve its distribution system. After a while, the sector has matured, is able to compete with the rest of the world, and the protection can stop. The process is summarised for Brazil in the figure below.

---

<sup>1</sup> Sometimes referred to as the infantile industry argument.



Let AA' be Brazil's initial production possibility frontier. The economy produces at point 1, Brazil exports "b" coffee and imports "a" cars. Assuming that the 'infant industry' argument is valid, the Brazilian economy can reach point 2 over time by imposing a temporary import tariff on cars. In the new equilibrium, the production of cars is increased and imports are lower than before.

- 8.6A Use the figure above to describe how the infant industry argument works for Brazil. Also explain why it is essential that protection leads to an improvement in technology in the national car industry.
- 8.6B What are some of the potential pitfalls for a government that tries to pursue a policy of protecting "infant" industries?

### Question 8.7

The tariff analysis in chapter 8 gives us no reason to abandon the paradigm of free trade. Nonetheless, almost all countries in the world impose some type of artificial barriers to international trade flows. This is, perhaps, not only the result of a failure of economic policy makers to read and study the book and the accompanying study guide, but is also related to the nature of the economic effects of tariffs.

Consider the US steel industry, which has been going through some rough times recently. The growing competitiveness of, for example, Russian steel companies, continues to erode the market share of domestic US producers. The American government acts decisively and imposes a tariff on the Russian steel imports, in order to save the jobs of many American steelworkers.

8.7A Who benefits and who loses in the US as a result of the tariff? Why is the lobbying effort from the losers from a tariff generally weaker than that from the winners?

Consider the African country Tanzania. The government is short of cash for financing the necessary public services in its large country. Against the advice of the IMF and the World Bank, it imposes a tariff on manufactures from the European Union.

8.7B Why are tariffs such an important component of Tanzanian tax revenues?

### Question 8.8

Chapter 8 and earlier chapters of the book give strong theoretical support for free trade. For various reasons a country enjoys welfare improvements if it opens its borders to international trade flows. Let us see whether this welfare improvement can be substantiated empirically. The [question 8-8 Excel file](#) on the website contains data on the average tariff, GDP per capita, exports, and imports for 63 countries.

8.8A Which ten countries have the lowest trade tariffs?

8.8B Which ten countries have the highest tariffs?

- 8.8C Compare your answers to questions 8.9A and 8.9B. What is the main difference between these countries?
- 8.8D How are free trade and welfare empirically related in this sample?
- 8.8E If free trade is welfare improving for all countries, can you give some possible motives for the countries in the sample to impose high tariff rates?

### **Question 8.9**

Chapter 8 is concerned with the theoretical analysis of trade protection, mainly focusing on tariffs. We have seen that there is a strong case for support of free trade, although many countries choose to erect barriers to international trade. The economic researchers A.M. Mayda and D. Rodrik have asked themselves an intriguing question: Why Are Some People (and Countries) More Protectionist than Others? This is the title of their paper that is to be found at your university library or on the web. Go to [www.nber.org](http://www.nber.org) and download the working paper.

- 8.9A What affects the attitudes of individuals toward trade? Can we link this to our findings in the models of this and previous chapters?
- 8.9B Are there other empirically relevant reasons for protectionism that we do not take into account in our economic models?
- 8.9C Does the paper offer an explanation for the popularity of protectionism as an economic policy, in contrast to the theoretical wisdom of free trade?

### **Question 8.10**

The "question 8-10" Excel file on the website depicts the free trade equilibrium for Zombio, which produces coffee and tractors. In the simulation you can change the tariff rate on tractors, the share of income spent on tractors, the factor endowments, and the world price of tractors. The junta in charge wants to raise some revenue to pay the wages of its soldiers. Rather than imposing taxes on domestically produced goods, the government decides to raise import duties to 50 percent.

The simulation has the starting values:  $K = 2$ ,  $L = 7$ ,  $\text{Tariff} = 0$ ,  $\Delta = 0.5$ . Note that some of the values have to be changed before you can answer the questions below.

8.10A Simulate the policy change of the government. Which group in Zombio is benefiting from the policy and why? What is the total income cost (in terms of tractors) of the policy for Zombio?

The world market for tractors is booming. The increased demand from other countries increases the relative price of tractors by 20 percent.

8.10B What does this mean for the terms of trade for Zombio?

8.10C What happens to utility and income (in terms of tractors)? Why?

As a result of the high tariff rate the local tractor industry faces less competition from abroad, becomes corrupted, and through mismanagement loses half of Zombio's capital stock.

8.10D Simulate the decline in the capital stock. Why does the volume of trade increase?

The junta has been talking about the benefits of the revolution for such a long time that the people of Zombio become thirsty for more coffee. They start to spend a larger share of their income on coffee than before.

8.10E Change the correct simulation parameter to reflect the change in preferences. What happens to the volume of trade and why?