QUESTIONS - CHAPTER 11 STRATEGIC TRADE POLICY

Question 11.1
In the state of Alusia there is only one producer of olive oil. The producer is highly regarded by the government of Alusia because it has been producing olive oil for centuries using traditional methods which give the olive oil a typical Alusian taste. After a long period of autarky, the Alusian government decides to open the borders to international trade and allow its citizens to consume a larger variety of products. The government is, however, concerned about the consequences of this policy for the olive oil monopolist. The figure below gives the demand for olive oil in Alusia, the marginal cost curve of the monopolist, and the price of olive oil on the world markets.¹

11.1A Indicate the autarky quantity supplied to the market and the price of olive oil in the figure above.

11.1B What would be the production level of olive oil for the Alusian producer, the quantity imported, and the price of olive oil in Alusia under free trade?

The Alusian government is considering protecting the olive oil industry by either imposing a tariff or introducing an import quota on the imports of olive oil.

11.1C Suppose that the government introduces a tariff such that the world price plus the tariff is below the competitive price and olive oil is produced domestically. Indicate the domestic production level, the import level, the price level, the consumer surplus, producer surplus and the government revenue for this tariff rate.

¹ Coming from non-Mediterranean countries we crudely assume that olive oil is a homogeneous good.
11.1D Determine what quota the government should impose which leads to the same level of imports as in 11.1C. Indicate the domestic production level, the import level, the price level, the consumer surplus, producer surplus and the government revenue for this import quota.

11.1E Explain whether you recommend the Alusian government to introduce a tariff or an import quota.

**Question 11.2**
The rapid economic growth in China is likely to be accompanied by growth in air travel. Large opportunities exist for both Boeing and Airbus to sell their planes in China. Let us analyse the market for large airplanes in China using the Cournot framework. The figure below gives possible reaction curves and isoprofit curves for both Airbus and Boeing.

11.2A Indicate for each of the different curves if it is a reaction curve or an isoprofit curve and to which of the two firms it belongs.

11.2B Chapter 9 shows that the Cournot equilibrium outcome is reached at point a. However, at point b Airbus has a higher profit level. Explain why the equilibrium outcome is not at point b.

Suppose that the European Commission would like to give Airbus a strategic advantage in China. It therefore gives an optimal (total welfare-maximizing) subsidy for every airplane Airbus sells to China.

11.2C Draw the new situation in the figure above. What are the new output levels for both firms and how does the output of both firms change?
11.2D What will the US government think of this EU subsidy? Use the new figure to explain their position.
The US government looks enviously at the European subsidy and decides also to provide an optimal subsidy, given the EU subsidy.

11.2E Draw the situation that arises after the imposition of the US subsidy in the figure.
What are the new output levels of both firms?

11.2F Assume that the European Commission sets a new optimal subsidy, followed by the US setting an optimal subsidy, followed by the EU again, etc. Will both countries eventually be better off or worse off?

Question 11.3
We could also imagine that Airbus and Boeing (see question 11.2) are competing with each other in a Bertrand framework (price competition), rather than a Cournot framework (quantity competition). Again the European Commission wants to stimulate the sales of Airbus in China.

11.3A Draw the reaction curves and some isoprofit curves for both Airbus and Boeing in a Bertrand framework. Put the price of an Airbus aircraft on the horizontal axis and the price of a Boeing aircraft on the vertical axis.

11.3B Should the European Commission subsidize or tax the aircraft Airbus sells to China? Draw the new situation in the figure when the European Commission optimally employs the instrument. How does the price demanded for aircraft change for both Airbus and Boeing?

11.3C What will the US government think of the EU policy?

11.3D Explain whether the Cournot or Bertrand framework is more appropriate to analyse competition between Airbus and Boeing.

Question 11.4
Chapter 11 describes two different oligopoly situations.

11.4A What is the main difference between a Cournot oligopoly and a Bertrand oligopoly?

11.4B Comparing figures 11.4 and 11.5 of the book it is clear that the reaction curve under Cournot competition is negatively sloped, while under Bertrand competition it is positively sloped. How do you explain this difference?
11.4C When comparing figures 11.4 and 11.5 it is also clear that the iso-profit curve of firm A is turned around 180 degrees. How do you explain this difference?

**Question 11.5**

Japan, South Korea, and Taiwan are regarded as primary examples of countries that have derived great benefits from targeting the development of specific industries. From the 1950s until the 1980s strategic trade policy by the Japanese government was accompanied by fast growth of the Japanese economy. The same applied for South Korea and Taiwan from the 1960s until the 1980s. Search the internet for information of the industrial policy of either Japan, South Korea or Taiwan. Do most serious researchers think that these Asian countries gained from strategic trade policy?

**Question 11.6**

The Excel file for question 11.6 allows you to experiment with the Brander-Spencer model (figure 11.4 in the main text). Assume that firm A and firm B are Airbus and Boeing selling their aircraft to a third market, Southeast Asia. The US government contemplates giving an export subsidy to Boeing to improve its competitive position in Southeast Asia.

11.6A What happens to the output and profit levels of Airbus and Boeing when the marginal costs of Boeing decrease? What happens to the output and profit levels if you increase the subsidy to Boeing by an equal amount, starting from the same initial situation? Compare both results and explain your observations.

11.6B Fill in the table below.

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<tr>
<th>Subsidy firm B</th>
<th>0</th>
<th>1</th>
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<td>Profit firm B</td>
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<td>Total subsidy B</td>
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11.6C At which subsidy level is the Brander-Spencer equilibrium reached? Explain.

11.6D What will the European Commission think of the imposition of an optimal subsidy by the US government?
11.6E What is the optimal subsidy level the European Commission could impose in response to the US subsidy?

11.6F Compare the situation of no subsidies with the situation in which both governments have imposed their optimal subsidies. Did the policy of giving subsidies lead to a higher welfare in the US and the EU?

11.6G What do consumers in the Southeast Asian market think of the subsidies by both governments? Explain.

Question 11.7

Airbus and Boeing could also be in Bertrand competition on the Southeast Asian market. The Excel file for question 11.7 allows you to experiment with the Eaton-Grossman model from the main text (figure 11.5). Again the US government considers helping Boeing to sell planes in Southeast Asia.

11.7A What happens to the output and profit levels of Airbus and Boeing when the marginal costs of Boeing increase? What happens to the price and profit levels if you increase the export tax of Boeing by an equal amount, starting from the same initial situation? Compare both results and explain your observations.

11.7B Fill in the table below.

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<td>Profit firm B</td>
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<td>Total tax B</td>
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11.7C At which tax level is the Eaton-Grossman equilibrium reached?

11.7D Do Airbus, Boeing, the European Commission, the US government, and Southeast Asian consumers prefer the Eaton-Grossman equilibrium?

11.7E What is the optimal response of the European Commission to the introduction of the US export tax? What is again the optimal of the US government to the action of the European Commission? Can this go on forever?