

INTERNATIONAL TRADE

Spring Term

Sample Exam

Instructions

You have **90 minutes** to complete the exam. This is a **closed book** exam. You are allowed to use a non-programmable calculator and an english-german dictionary. The maximum number of points you can obtain are **100 points**. Answers must be written with blue or black ink, answers written with pencil will not be marked. Any sign of fraud will be rewarded with the grade 1, or in severe cases with expulsion from the department. If you have any questions during the exam please contact the examiner with as little disruption as possible. Respect the other exam takers. Carefully read through the questions and write all the answers in the allocated space. There will be extra paper distributed to by the examiner. These are for personal notes and calculations only and **will not be marked**. Make sure that your answers are understandable and have a clear structure. **Always read the entire question**. Good Luck!

Name:

Student ID:

Exercise 1 (9 pts)

Note: Wrong answers in the multiple choice section will be rewarded with **one minus point**. Check the **correct** answer(s).

1. Consider the two-country Heckscher-Ohlin model. Let Home be capital abundant and Foreign be labor abundant. The two countries engage in trade. Preferences are the same in both countries. If Home imposes an import tariff, then at Home
 - The return to capital will decrease and the wage will increase
 - Both the return to capital and the wage will increase
 - The return to capital will increase and the labor wage will decrease
 - Both the return to capital and the wage will decrease

2. The expression "Dutch disease" describes a situation in which
 - Growth of one export sector hurts other export sectors
 - Growth in a large export sector decreases welfare of a country because the terms of trade deteriorate
 - Trade decrease welfare of a country because it leads to environmental damage
 - A decrease in the oil price lowers welfare of an oil exporting country

3. Increasing a tariff ...
 - ... Always increases government revenue
 - ... Increases imports
 - ... Tends to benefit the domestic (import-competing) producers
 - None of the above

Exercise 2 (16 pts)

Explain briefly what is meant by the following (1-2 sentences are enough)

a) Comparative advantage

b) Stolper-Samuelson Theorem

d) Factor abundance and factor intensity

e) Specific production factor

Exercise 3 (16 pts)

Consider the Ricardian model with two countries (Home and Foreign) and two goods (food and clothing). Units of labor needed to produce one unit of clothing and food respectively are given by $a_{LC} = 3$ and $a_{LF} = 1$ for the home country and by $a_{LC}^* = 4$ and $a_{LF}^* = 2$ for the foreign country.

a) Determine absolute and comparative advantage.

b) Is it possible that trade between the two countries occurs at a price $\frac{P_C}{P_F} = 1$? Explain.

c) Is it possible that wages in the foreign country are higher than in the home country? Explain.

d) Is it possible that the two countries trade with each other, and both countries produce both goods? Explain.

Exercise 4 (16 pts)

Consider the specific factors model. There is a country (call it Iceland) that can produce two goods: Fish (F) and Wool (W). Sheep farms are the specific factor used for wool production, and fish boats are the specific factor used for fish production. Labor is used to produce both goods. Note: You may, but do not have to, draw graphs to explain your answers.

- a) Suppose Iceland engages in trade with the rest of the world and is too small to affect world prices. A volcano eruption destroys many sheep farms in Iceland. Explain how this affects the welfare of each group in Iceland (workers, owners of sheep farms, owners of fish boats).

- b) Iceland is an importer of wool and an exporter of fish. The Icelandic parliament discusses whether or not to adopt a tariff on the imports of wool. Explain how the welfare of each group in Iceland will be affected by such a tariff. Will production in Iceland change if the tariff is introduced?

Exercise 5 (16 pts)

One of the main export products of Switzerland are pharmaceutical drugs ("Medikamente").

- a) In the context of the Ricardian model, what would be the reason for the comparative advantage of Switzerland in pharmaceuticals production? And in the context of the Heckscher-Ohlin model?

- b) Financial services are another important export product of Switzerland. Arguing within the specific-factors model, explain how an increase in the world price of financial services will affect the pharmaceuticals industry.

Suppose the production of pharmaceuticals requires capital as an input, which is a footloose production factor.

- c) What is a footloose factor?

- d) The wage level in Switzerland is high compared to other countries. In the context of the footloose factor model, explain why Switzerland may nevertheless be attractive for the production of pharmaceuticals.

Exercise 6 (16 pts)

Suppose a country can produce two goods, food and clothing. Labor is used for both goods, while capital is the specific factor used for clothing production and land is the specific factor used for food production. Output of clothing is denoted by Q_C and output of food is denoted by Q_F . L_C and L_F denote the amount of labor used for clothing and food production respectively. The total amount of labor available in the country is L , such that $L_C + L_F = L$. K and T denote the amounts of capital and land available in the country. The production functions are Cobb-Douglas production functions given by:

$$Q_C = \sqrt{L_C}\sqrt{K} \quad (1)$$

$$Q_F = \sqrt{L_F}\sqrt{T} \quad (2)$$

- a) Show that the marginal product of labor in each sector is decreasing in the amount of labor per specific factor in that sector.

- b) Show that the marginal product of each specific factor is increasing in the amount of labor per specific factor.

- c) Suppose the home country is a small open economy that engages in trade. It takes the world prices of food and clothing, P_C and P_F , as given. Show that an increase in the relative world price of clothing ($\frac{P_C}{P_F}$) leads to a shift of labor away from food into clothing production (i.e. show that $\frac{L_C}{L_F}$ increases if $\frac{P_C}{P_F}$ increases).
- d) Show that an increase in land leads to a shift of labor away from clothing into food production. (show that $\frac{L_C}{L_F}$ decreases if T increases)

Exercise 7 (11 pts)

Comment shortly on the following statements:

- a) In the Heckscher-Ohlin model, if countries are very similar in every respect (preferences, technology, endowment) then they will not trade much with each other.

- b) The larger the number of sectors a country has an absolute advantage in, the greater its gains from trade.