

EXAMINATION

Course code: SFB 11615	Course: International Economics (10 ECTS)
Date: May 11, 2020	Duration: 09:00 – 13:00 (4 hours) Central European Summer Time (Norway Time)
	Lecturer: Roswitha M. King
The examination: <p>The examination papers consist of 5 pages inclusive this page. Please check that the examination paper are complete before you start answering the questions.</p> <p>The exam consists of 4 (four) exercises. You must solve all four exercises. The exercises have the following weights:</p> <p>Exercise 1: 30% Exercise 2: 30% Exercise 3: 30% Exercise 4: 10%</p>	

Show all your solution steps. Interpret the meaning of your results. Explain all symbols that are not already explained in the given text. If formulas are involved, first work with the general formula, then later fill in numbers. Clearly indicate what your final answer is.

Good luck!

1. Absolute- and Comparative Advantage in the Ricardian Model

Instruction: Structure your answers to precisely fit each of the sub-questions.

Comment: This exercise does NOT require graphing.

This exercise calls for analysis of central concepts in international trade. We assume that all the conditions for the Ricardian Model hold. We consider two countries, Country A and Country B. Initially both countries are closed economies and both countries produce wine and cheese. Both countries have one factor of production: Labor. In the following we give information on the relation between inputs and outputs in production.

In country A it takes 15 labor hours to produce one bottle of wine, and 10 labor hours to produce one kilo of cheese.

In country B it takes 10 labor hours to produce one bottle of wine, and 4 labor hours to produce one kilo of cheese.

It remains to describe the two countries' labor resources, expressed in labor hours. Country A has a total of 30 000 000 (thirty million) labor hours per year. Country B has a smaller population than Country A, and has a total of 20 000 000 (twenty million) labor hours per year.

- a)** Does any of the two countries have an **absolute** advantage in producing wine? Explain.
- b)** Does any of the two countries have an **absolute** advantage in producing cheese? Explain.
- c)** Which of the two countries has a **comparative** advantage in producing wine? Explain and show all your calculations.
- d)** Which of the two countries has a **comparative** advantage in producing cheese? Explain and show all your calculations.
- e)** Here we continue with the assumption that both countries are **CLOSED** economies. In addition to the information given above, consider the following situation: The closed economy **A** *consumes* 1 500 000 kilos of cheese (1.5 million) and 1 000 000 bottles of wine (1 million) per year. Your task: Determine how much cheese and how much wine country **A** *produces* per year.
- f)** Now let us assume that the two countries open up for trade between them.
Looking at country **A**: Which good is exported and which good is imported? Explain how you determine that.
Looking at country **B**: Which good is exported and which good is imported? Explain how you determine that.

2. Relative Prices and Gains from Trade in the Ricardian Model

Instruction: Structure your answers to precisely fit each of the sub-questions.

Comment: This exercise does NOT require graphing.

This exercise, again, calls for analysis of central concepts in international trade. We start out with the same information that was given at the beginning of exercise 1. We assume that all the conditions for the Ricardian Model hold. We consider two countries, Country A and Country B. Initially both countries are closed economies and both countries produce wine and cheese. Both countries have one factor of production: Labor. In the following we give information on the relation between inputs and outputs in production.

In country A it takes 15 labor hours to produce one bottle of wine, and 10 labor hours to produce one kilo of cheese.

In country B it takes 10 labor hours to produce one bottle of wine, and 4 labor hours to produce one kilo of cheese.

It remains to describe the two countries' labor resources, expressed in labor hours. Country A has a total of 30 000 000 (thirty million) labor hours per year. Country B has a smaller population than Country A, and has a total of 20 000 000 (twenty million) labor hours per year.

- a)** If country **A** allocates all its labor hours to the production of wine, how many bottles of wine will it produce per year? Explain.
- b)** If country **A** allocates all its labor hours to the production of cheese, how many kilos of cheese will it produce per year? Explain.
- c)** If country **B** allocates all its labor hours to the production of wine, how many bottles of wine will it produce per year? Explain.
- d)** If country **B**, allocates all its labor hours to the production of cheese, how many kilos of cheese will it produce per year? Explain.
- e)** Here we first consider the situation where both countries are **CLOSED** economies.
For country **A**: First represent in symbols what, in the given context, we mean by '*the relative price of wine*' and '*the relative price of cheese*'. Then calculate the numerical values for country A's two relative prices under the closed economy conditions.
For country **B**: First represent in symbols what, in the given context, we mean by '*the relative price of wine*' and '*the relative price of cheese*'. Then calculate the numerical values for country B's two relative prices under the closed economy conditions.
- f)** Now we consider the situation where both countries **OPEN** up for trade with each other. So, instead of each country having its own relative prices, there will be a world relative price for wine and a world relative price for cheese. Consider the situation where: The world relative price ratio is: **½ bottle of wine per 1 kilo of cheese**. Your task is to explain the *gains from trade*. You should explain the gains from trade with reference to the specifics of this exercise, and use numerical values in comparing the situation of closed economy with the situation of open trade between the countries. Show that both country A and country B gain from trade.

3) Specific Factors, Income Distribution and International Labor Migration

Instruction: Structure your answers to precisely fit each of the sub-questions.

Comment: This exercise does NOT require graphing.

Here we consider a situation with two factors of production (inputs) that are used in the production of one single good. One factor, *land*, is specific to its location and cannot be moved. The other factor, *labor*, is mobile. The landowners employ the workers and pay them wages. We consider two countries, The United Kingdom (UK) and Bulgaria. The supply of land relevant for the production of the single good is the same in both countries, and production technology is also the same in the two countries. Both countries produce the same good. With regard to the mobile factor, labor, the following information is relevant: As factor labor increases and factor land stays the same the production process displays *diminishing returns*. In other words, the marginal product of labor decreases as the number of worker increases. In this context it is understood that workers are paid the value of the marginal product they generate. This establishes the link between Marginal Product of Labor and the wage.

The relation between number of workers employed in production and the marginal product of labor is shown in the following table:

Number of workers employed	Marginal product of the last worker employed
1	30
2	29
3	28
4	27
5	26
6	25
7	24
8	23
9	22
10	21
11	20

At the beginning of the time period under analysis there are 3 workers employed in UK and 10 workers employed in Bulgaria. Consider and explain in detail, with the help of the above table, the effect of 3 workers migrating from Bulgaria to the UK on:

- a)** Wages of the three workers that migrate.
- b)** Wages of the workers who stay in Bulgaria.
- c)** Wages of workers who were originally in UK.
- d)** Operating costs of landowners in Bulgaria.
- e)** Operating costs of landowners in UK.

Due to the uncertainties surrounding BREXIT, the three workers who had migrated from Bulgaria to UK decide to return to Bulgaria (return migration). In addition one British worker who had always lived in the UK decides to migrate to Bulgaria together with the three Bulgarian return-migrants. Consider and explain in detail, with the help of the above table, the effect of this migration on:

- f)** Wages of the three return migrants.
- g)** Wage of the one British worker who migrates to Bulgaria.
- h)** Wages of the workers remaining in the UK.
- i)** Wages of the workers who had always remained in Bulgaria.
- j)** Operating costs of landowners in Bulgaria.
- k)** Operating costs of landowners in UK.

4) Firms in the Global Economy

The past few decades have shown a significant increase in firms' international outsourcing of production, foreign direct investment, as well as international trade – part of what is often referred to as 'globalization'. While the gains of such types of globalization have been widely communicated, recent experience with the COVID-19 Pandemic has led to calls for 'de-globalization'. The pandemic-induced economic shocks have made us painfully aware of how fragile the international supply chains are. Voices are being heard that advocate moving production, at least of 'critical products' such as medicines, medical supplies and food, back home.

Your task: Evaluate the advantages and disadvantages of globalization and de-globalization with focus on location of production, in light of the ongoing experience with the COVID-19 Pandemic. Suppose you are called upon to advise your country's government on whether to move production that is currently outsourced internationally back to your home country – or not. What would be your advice?

