

# EXAMINATION

<b>Course code:</b> SFB 11615	<b>Course:</b> International Economics ( 10 ECTS)
<b>Date:</b> May 11, 2022	<b>Duration:</b> 09:00 – 13:00 (4 hours) Central European Summer Time (Norway Time) INSPERA
	<b>Lecturer:</b> Roswitha M. King
<b>The examination:</b>  The exam consists of 4 (four) exercises. You must solve all four exercises. The exercises have the following weights:  Exercise 1: 25% Exercise 2: 30% Exercise 3: 20% Exercise 4: 25%	

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*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!*

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## **1. The Ricardian Model: Absolute- and Comparative Advantage, Patterns of Trade.**

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

*Comment: This exercise does NOT require graphing.*

Consider two countries, Argentina and Brazil. In their economies money does not play a role. Everything is measured in 'real' things. We assume that the conditions for the Ricardian Model are all satisfied. Initially Argentina and Brazil are closed economies. Initially both Argentina and Brazil produce beer and pizza. Both countries use one factor of production: Labour. How input and outputs hang together is described in the following:

In Argentina one keg of beer is produced using 30 labour hours, and one kilo of pizza is produced using 20 labour hours.

In Brazil one keg of beer is produced using 20 labour hours, and one kilo of pizza is produced using 8 labour hours.

We need to state how many inputs in terms of labour hours are available to each country per year. This does not necessarily follow the total population sizes but it tells us how many people want to work, and that is all we care about.

Argentina has a total of 60 000 000 (sixty million) labour hours per year.

Brazil has a total of 40 000 000 (forty million) labour hours per year.

- a)** Explain in detail: Does Argentina or Brazil, or both, or neither of them, have an **absolute** advantage in producing beer? The countries are closed economies.
- b)** Explain in detail: Does Argentina or Brazil, or both, or neither of them, have an **absolute** advantage in producing pizza? The countries are closed economies.
- c)** Explain in detail: Does Argentina or Brazil, or both, or neither of them, have a **comparative** advantage in producing beer? The countries are closed economies.
- d)** Explain in detail: Does Argentina or Brazil, or both, or neither of them, have a **comparative** advantage in producing pizza? The countries are closed economies.
- e)** Argentina and Brazil **open** up for trade between them.  
Argentina: Which good (if any) is exported and which good (if any) is imported? Explain how you determine that.  
Brazil: Which good (if any) is exported and which good (if any) is imported? Explain how you determine that.

## 2. The Ricardian Model: Relative Prices and Gains from Trade

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

*Comment: This exercise does NOT require graphing.*

We consider our old friends, two countries, Argentina and Brazil. We assume that all the conditions for the Ricardian Model hold. Initially Argentina and Brazil are closed economies and both produce two outputs, beer and pizza, using one factor of production, Labour.

In Argentina one keg of beer is produced using 30 labour hours, and one kilo of pizza is produced using 20 labour hours. In Brazil one keg of beer is produced using 20 labour hours, and one kilo of pizza is produced using 8 labour hours.

Argentina has a total of 60 000 000 (sixty million) labour hours per year.

Brazil has a total of 40 000 000 (forty million) labour hours per year.

**a)** Consider Argentina to be a closed economy. How many kegs of beer will the country produce per year when the country allocates all its labour hours to beer production? Explain and give both a general-symbol answer and a numerical answer.

**b)** Consider Argentina to be a closed economy. How many kilos of pizza will Argentina produce per year when the country allocates all its labour hours to pizza production? Explain and give both a general-symbol answer and a numerical answer.

**c)** Consider Brazil to be a closed economy. How many kegs of beer will Brazil produce per year when the country allocates all its labour hours to beer production? Explain and give both a general-symbol answer and a numerical answer.

**d)** Consider Brazil to be a closed economy. How many kilos of pizza will Brazil produce per year when the country allocates all its labour hours to pizza production? Explain and give both a general-symbol answer and a numerical answer.

**e)** We continue with Argentina and Brazil being closed economies.

Argentina: In the prevailing context consider ‘*the relative price of beer*’ and ‘*the relative price of pizza*’. Express these magnitudes in general symbols.

**f)** Using the expressions of (e) fill in the appropriate numbers and calculate the numerical values of ‘*the relative price of beer*’ and ‘*the relative price of pizza*’ for the closed economy Argentina.

**g)** Brazil: In the prevailing context consider ‘*the relative price of beer*’ and ‘*the relative price of pizza*’. Express these magnitudes in general symbols for the closed economy Brazil.

**h)** Using the expressions of (g) fill in the appropriate numbers and calculate the numerical values of ‘*the relative price of beer*’ and ‘*the relative price of pizza*’ for the closed economy Brazil.

**i)** Argentina and Brazil **OPEN** up for trade with each other. Argentina and Brazil no longer have their country-specific relative prices. A world relative price for beer and a world relative price for pizza will prevail. Let us consider the case where: The world relative price ratio is: **1 keg of beer per 2 kilo of pizza**. Are there gains from trade? For Argentina? For Brazil? For both? For None? All should be explained with reference to specific numbers that are given.

### 3) Trade Policy: The case of a tariff.

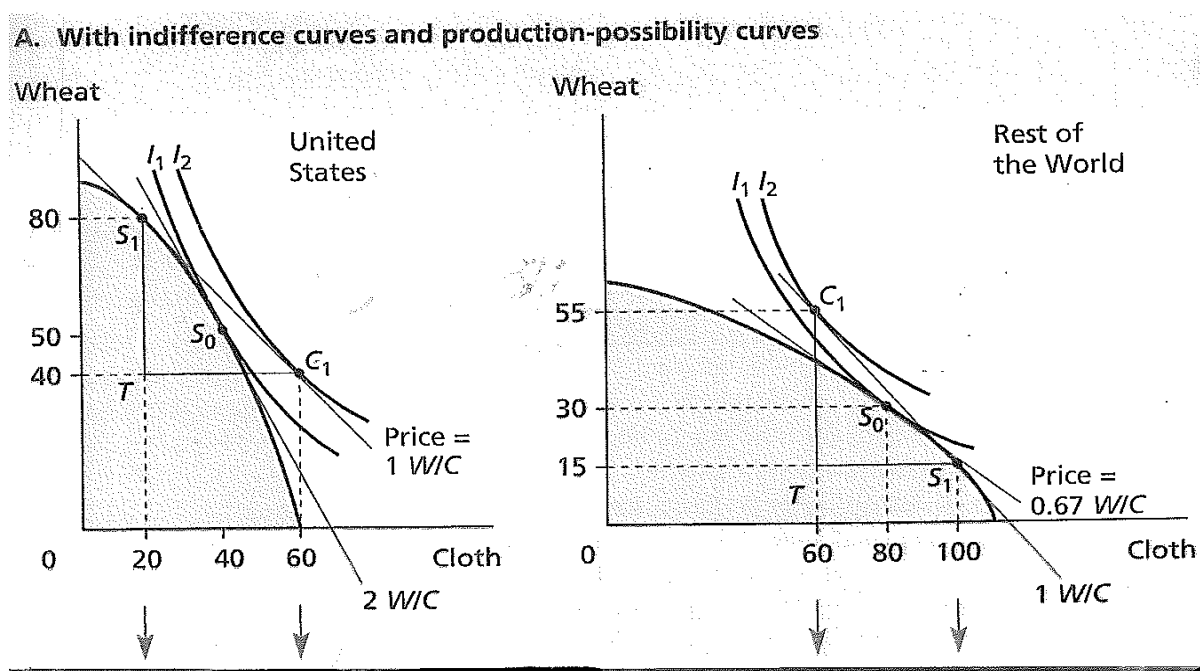
*Instruction: Structure your answers to precisely fit each of the sub-questions.*

- Consider the USA (a large country) imposing a tariff on its imports from Luxemburg (a small country). Explain the effects on both USA and Luxemburg.
- Consider Luxemburg (a small country) imposing a tariff on its imports from USA (a large country). Explain the effects on both Luxemburg and USA.
- Is it smart of USA or Luxemburg to impose a tariff?

### 4) Increasing Marginal Cost of Production and International Trade

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

Here we explore increasing marginal costs of production (bowed-out production possibilities curve) and the possibilities that come with international trade. We consider trade in wheat,  $W$ , and cloth,  $C$ . The graphs, below, show production possibilities curves for the USA (United States) and for the Rest-of-the-World (ROW), as well as indifference curves. In this way we are looking at both the production side (production possibilities curve) and the consumption side (indifference curves). The Indifference curves are labelled  $I_1$  and  $I_2$ . The point  $S_0$  indicates each country's production of wheat and cloth BEFORE trade opens up. It is important that the explanations specifically refer to the graphs and the details given in it.



Your task is as follows:

Explain the meaning of the graphs. What do we learn from them?