



Final Exam

## "International Trade and Factor Mobility"

Summer/Kiss 2002

July 12, 2002

Please print:

Name:	First name:
Date of birth:	Place of birth:
Student ID Number:	Home institution for Socrates-/KiSS-students:
No. of semesters:	
Name of Program:	
Signature: _____	

### Remarks:

- All three questions are equally weighted.
- Please answer a **total** of three questions.
- For your answers, use the special exam sheets provided to you.

**Results:** (please leave blank)

Problem:	1	2	3	$\Sigma$
points:				
Grade:				

Kiel,

2002

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 (Gerald Willmann, Ph.D.)

### Question 1: FDI

- a) According to Dunning's OLI framework, which three conditions have to be met for FDI to take place? Please explain each of the three conditions.
- b) A large corporation considers whether to establish a subsidiary or license its technology to serve a foreign market. The time horizon is two periods,  $R$  denotes the rent per period for a sole licensee,  $M$  the rent for the multinational, and  $F$  the fixed cost (equal for both). Derive the  $R < 2F$  condition that makes licensing sustainable.
- c) Describe other problems of licensing vs. FDI that were not captured by the simple model of part b).

### Question 2: Migration

- a) Describe how immigration affects the wage spread. Does this effect depend on the type of immigration? How would the same type of migration affect wages in the source country, i.e. the country from where they emigrated?
- b) Consider a 2-period OLG (overlapping generations) model. The native population is constant over time, consisting of  $n$  inhabitants. During the first period of their lives, they earn a gross wage of  $w$  (also constant over time) and pay a share  $t$  of their wage into a PAYG pension system. When old they receive pension payments of  $b$ . Establish a relation between  $t$  and  $b$  that must hold for the system to be balanced. How does one-time immigration of  $n/10$  change this relationship? What are the welfare effects if  $t$  is fixed, and what if  $b$  is fixed? What is needed to make everyone (!) strictly better off?
- c) Explain the problem caused by middle-aged decision makers. How much importance do they give to each cohort's interests? To achieve the social optimum, what would be the ideal age of the decision maker?

### Question 3: Trade and factor mobility

- a) Compare the Ricardo and the Heckscher-Ohlin models, i.e. list their respective assumptions and compare them. How does each model explain trade?
- b) Which of the four results of the HO-model is most relevant for factor mobility? Is it a result of the model or does it require additional assumption(s)? How does it answer the question whether trade and factor mobility are complements or substitutes?
- c) Consider an integrated world economy where 480 units of labor and 160 units of capital are used in the low-tech sector and 120 units of labor and 240 units of capital in high-tech (the only two sectors). Now Samuelson's angel comes down and divides the world into North (150 units of labor, 250 units of capital) and South (450 units of labor, 150 units of capital) both disposing of the same production technology. Show mathematically whether there will be factor price equalization under free trade when there is no factor mobility? Feel free to check your answer graphically.