UNIVERSITY OF OSLO
DEPARTMENT OF ECONOMICS

Exam: **ECON4415 – International Trade**

Date of exam: Monday, December 9, 2013

Time for exam: 2.30 p.m. – 5.30 p.m.

The problem set covers 3 pages (incl. cover sheet)

Resources allowed:
- No resources allowed

The grades given: A-F, with A as the best and E as the weakest passing grade. F is fail.

Problem 1: (20 points)

a. State and describe the sources of gains from trade in a world with perfect competition and constant returns to scale in production.

b. State and describe the sources of gains from trade in a world with imperfect competition, increasing returns to scale and homogenous firms.

c. State and describe the sources of gains from trade in a world with imperfect competition, increasing returns to scale and heterogeneous firms.

Problem 2: (30 points)

The government in Little land is contemplating opening up for labor migration from its neighbouring country.

a. What is likely to be the short-run impact of labor immigration to Little land on factor prices, industrial structures and welfare? Explain and illustrate the effects graphically.

b. Which groups in Little land are likely to be positive to the migration policy reform and who are likely to be negative? Explain why.

c. What will be the long run effects of the migration policy reform? Will they differ from the short run effects and if so, why? Explain and illustrate your answer graphically.

Problem 3: (30 points)

Consider a closed economy $Fantasia$ with an endowment of L of identical agents, who work, consume and own the firms.

The representative consumer derives utility from consuming N differentiated goods:

$$U(q_1, ..., q_N) = \left(\sum_{i=1}^{N} q_j^{\frac{\sigma-1}{\sigma}} \right)^{\frac{\sigma}{\sigma-1}}, \qquad \sigma > 1$$

where $\sigma > 1$ is the elasticity of substitution among varieties.

Each firm has monopoly power over a single variety j. Assume that in order to operate a firm must pay a fixed cost f as well as a variable cost b per unit of output, where costs are measured in units of labor. Hence, its total labor requirement is given by $l = f + bx_j$. The firm pays wage w per unit of labor and gets a price p for each unit of output.

a. Solve the consumer's utility maximization problem, and derive the representative consumer's demand for each variety j as well as an expression for the price index for differentiated goods facing the consumers.

b. Solve firms' profit maximizing problem and derive the optimal price, equilibrium quantity produced by each firm and equilibrium number of firms.

c. The government of *Fantasia* dicusses whether to open up for trade with the economy *Utopia*, which is identical to *Fantasia* with respect to preferences, technology and endowment. Some government members argue that due to the fact that the two economies are identical, there will be no gains from trade. What would be the counter-arguments available to the proponents of trade in the government of *Fantasia*?

d. Consider the impact of *Fantasia* opening up to trade with *Utopia* on

- prices
- price indices
- equilibrium quantity produced by each firm
- number of firms
- welfare;

explain and use calculus.

Problem 4: (20 points)

Trade liberalization is predicted to deliver aggregate gains. However, trade liberalization may also generate income inequalities.

a. What trade models can explain why trade may give rise to national income inequalities? Explain the forces at work which trigger the emergence of such inequalities.

b. What trade models can explain why trade gives rise to international income inequalities? Explain the forces at work which trigger the emergence of such inequalities.