UNIVERSITY OF OSLO
DEPARTMENT OF ECONOMICS

Exam: **ECON4415 – International Trade**

Date of exam: Wednesday, December 1, 2010   **Grades are given: December 21, 2010**

Time for exam: 09:00 a.m. – 12:00 noon

The problem set covers 2 pages

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: (25 points)
    a. State the sources of gains from trade in a perfect competition model of trade
    b. State the sources of gains from trade in a imperfect competition model of trade
    c. Show graphically and explain how gains from trade may be realized

Problem 2: (25 points)
Littleland does presently not trade with any other country, but has the opportunity of trading with country A or B. Compared to both A and B, Littleland is relatively abundantly endowed with labor, while A and B are relatively abundantly endowed with capital. However, country A is more similar to Littleland in terms of relative factor endowments than country B.
    a. Consider the following statement: Littleland should trade with A instead of B because this will destroy fewer jobs in import-competing industries. Is the statement true or false? Explain your answer.
    b. Which groups in the economy will be in favor of trading with A and which groups will be in favor of trading with B? Explain your answer graphically.

Problem 3: (25 points)
    a. What distinguishes the Speci.c Factor model from the Heckscher-Ohlin model?
    b. What do the two models tell us about the impact of international labor migration on production and factor prices in the short and the long run? Explain and illustrate your answer graphically.
    c. Who gains and who loses because of migration? Explain and illustrate your answer graphically.

Problem 4: (25 points)

Consider an economy with a mass L of identical agents, who work, consume and own the firms.

The representative consumer derives utility from consuming N differentiated goods. Assume that her utility has a love-of variety for

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

where σ is the elasticity of substitution among varieties. We also require $\sigma > 1$.
By maximizing utility it can be shown that consumption of good j is

$$q_j = \frac{p_j^{-\sigma}}{P^{1-\sigma}} wL$$

Where

$$P = \left[\sum_{k=1}^{N} p_k^{1-\sigma} \right]^{\frac{1}{1-\sigma}}$$

Each firm has monopoly power over a single variety j. Assume that in order to operate a firm must pay a fixed cost f (in labor units) and a variable cost bq, and that we can write profits as

$$\pi_j = p_j q_j - w l_j$$
$$= p_j q_j - w(b q_j + f)$$

a. Solve firms' profit maximizing problem and derive the optimal price, equilibrium quantity produced by each firm and equilibrium number of firms.
b. Consider the impact of a rise in market size (i.e. a rise in L) on
   - prices
   - price indices
   - equilibrium quantity produced by each firm
   - number of firms
   - welfare, measured by consumer utility explain and use calculus.