Written exam for the B.Sc. or M. Sc. in Economics
International Economics
Final Exam / Elective course / 3rd year course
August 11, 2010
3-hour closed book exam

All problems must be answered. The approximate weight of each problem in the final grade is stated in parentheses.

Please note that the language used in your exam paper must correspond to the language of the title for which you registered during exam registration. I.e. if you registered for the English title of the course, you must write your exam paper in English. Likewise, if you registered for the Danish title of the course or if you registered for the English title which was followed by "eksamen på dansk" in brackets, you must write your exam paper in Danish.

If you are in doubt about which title you registered for, please see the print of you exam registration from the students' self-service system.

PROBLEM 1 (45%)

Determine if the following statements are true or false. Give a short explanation.

1.1 International trade has grown continuously since World War 1.

1.2 Rybczynski's theorem states that an increase in labor endowment causes a more than proportional increase in the output of the labor intensive good and an absolute decline in the output of the other good.

1.3 Trade policies often reflect the preferences of the median voter.

1.4 Export subsidies may have a positive impact on welfare.

1.5 Joining a free trade area improves welfare of the joining country.

1.6 Labor standards would benefit workers in developing countries.

1.7 Factor mobility may produce the same income distribution effects as trade in goods.

1.8 In a model of outsourcing with three input factors, capital, low skilled labor and high skilled labor, increased globalization will always lead to a lower relative wage of low skilled labor.

PROBLEM 2 (55%)

The Monopolistic Competition Model. Imagine that ice creams in Copenhagen are produced by a monopolistically competitive industry. The demand facing any single firm (firms are symmetric) is described by the equation

$$Q = S^C \left(\frac{1}{n} - \frac{1}{b} \left(P - \bar{P} \right) \right),$$

where Q is the firm's sales, S^C is the total sales in the ice cream industry in Copenhagen, n is the number of firms in the industry, P is the price charged by the firm itself, and $\bar{P}$ is the average price charged by its competitors. The cost function for producing ice creams takes the following form

$$C = F + cQ,$$

where F is a fixed cost and c is the firm's marginal cost. Assume further that $S^C = 6400$, $b = 1$, $F = 100$ and $c = 2$.

2.1 Show that (and explain why) the average cost of a firm may be written as a function of the number of firms such that $AC = \frac{n}{64} + 2$. Why are average costs increasing in the number of firms?

2.2 State the firms' profit maximization problem. Show first that marginal revenues may be written $MR = P - \frac{Q}{B}$, where B is some constant, and find then the price charged by the firms as a function of the number of firms. How does the price depend on the number of firms and the marginal cost?

2.3 In the long run firms earn zero profits. Find the long run number of firms, n^C, and price, P^C, and illustrate graphically why the number of firms tends to move towards n^C in the long run.

Suppose now a bridge between Copenhagen and Malmö is built such that international trade in ice creams is possible. Annual sales of ice creams in Malmö is $S^M = 3600$, and ice cream producers face the same demand and cost functions as in Copenhagen.

2.4 What is the number of firms and the price of ice creams in Malmö before the bridge? What is the number of firms and the price of ice creams in the integrated market after the bridge? Interpret the results.