

Written exam for the B.Sc. or M. Sc. in Economics  
International Economics  
Final Exam / Elective course / 3rd year course  
June 30, 2011  
3-hour closed book exam

All problems must be answered.

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 your exam registration from the students’ self-service system.

## PROBLEM 1

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

- 1.1 According to the Heckscher-Ohlin model, the owners of a country's abundant factor gain from trade, and the owners of a country's scarce factor lose.
- 1.2 Import biased growth in other countries improves domestic welfare.
- 1.3 In the reciprocal dumping model by Brander and Krugman (1983) trade will occur if the monopoly price is lower than the marginal cost of exporting.
- 1.4 Europe's Common Agricultural Policy is likely to improve welfare in Europe.
- 1.5 A voluntary export restraint may improve welfare for the importing country.
- 1.6 Countries may end up in a suboptimal trade war, if trade policy are made on a purely domestic basis.
- 1.7 Foreign direct investment flows are characterised by the following: i) they have grown more rapidly than trade flows and GDP over recent decades, ii) world trade flows and world FDI flows are of roughly the same magnitude, and iii) most FDI flows go from developed to developing countries.

## PROBLEM 2

**Strategic trade policy.** Consider the production of cell phones,  $z$ , by two countries Finland and Sweden. In each country there is one firm producing the good with constant marginal costs  $c = 1$ . The two firms sell the good in a third country, Denmark, and they compete in quantities (Cournot competition). The output of the Finnish firm is denoted  $x$  and the output of the Swedish firm is denoted  $y$ , so that the total quantity sold in Denmark is  $z = x + y$ . The demand for  $z$  by consumers in Denmark is given by the following (inverse) demand curve  $p = 25 - z$ .

- 2.1 State the maximisation problems of the two firms and show that the Finnish and Swedish firm's reaction functions are given by  $x = \frac{24-y}{2}$  and  $y = \frac{24-x}{2}$  respectively.

**2.2** Find the Cournot Nash equilibrium price, quantities, and profits.

**2.3** Illustrate graphically the Nash equilibrium. Is it a stable equilibrium? Explain the reasons for your answer.

The Finnish government now subsidises exports of the Finnish firm by  $s$  per cell phone.

**2.4** Show that Finnish firm's reaction function changes to  $x = \frac{24-y+s}{2}$ . Find the new Cournot-Nash equilibrium price, quantities and profits. How does the subsidy affect the profits of the two firms?

Assume that welfare in Finland is measured by the profit of the Finnish firm minus the cost of the subsidy,  $G = \pi - sx$ .

**2.5** Find the subsidy that maximises welfare in Finland. Illustrate graphically how this outcome corresponds to the Stackelberg equilibrium where the Finnish firm is the leader and the Swedish firm is the follower.