EC 391 Final Exam

Summer 2018

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Instructions: You have 120 minutes to complete this exam. The exam consists of two parts. For the first part, please indicate whether the statement is true, false, or if the assertion is indeterminate. In all cases, defend your answer with a concise explanation. To earn full credit, you must include an explanation with your answer. The second part consists of longer questions. To earn full credit in this part, you must answer every component to the question.

NOTE: You do not need to answer ALL of the questions. Read the instructions carefully as you have the option to select which questions to answer. Do not attempt to answer more than the required number of questions. This will neither earn you extra credit, nor provide you with any insurance against an otherwise incorrect response. If you answer all questions, I will simply grade the first six and the first four in each section, respectively.

True/False/Uncertain (30 points)

PLEASE SELECT 6 OF THE FOLLOWING 9 QUESTIONS TO ANSWER

1. Based on the Ricardian model, if two countries have identical terms of trade, then there is no potential for strictly positive gains from trade.

2. Free trade is a bad idea since someone will be hurt when prices change.

3. If the world is composed of a large country and several small countries, and each country imposes an optimal tariff, then world welfare will be maximized.

4. According to the short-run Specific Factors model, labor unions might support limitations on the outflow of FDI.

5. Trade diversion may decrease welfare.

6. Suppose that Home observes an influx of migrants. They are all equally productive and every one of them works. Then, according to the Heckscher-Ohlin model, this decreases the number of capital-intensive goods produced by Home.

7. Consider the simple offshoring model discussed in class. Suppose that the world is populated by two large countries: China and the U.S., and the production of the final good requires components production (low-skill intensive) and R&D (high-skill intensive). Furthermore, assume that low-skilled labor is cheaper in China. Now suppose that the U.S. imposes an

optimal tariff on Chinese exports. By imposing this tariff, the U.S. may be able to achieve larger gains in an offshoring equilibrium than in the absence of such a tariff.

8. According to the gravity equation, the amount of trade between two countries is inversely related to the size of the economies of these countries.

9. Consider a perfectly competitive domestic industry compared to a domestic monopolist. All else equal, after opening up to free trade, the domestic monopolist will behave in the same way as the perfectly competitive industry.

Longer Questions (60 Points)

PLEASE SELECT 4 OF THE FOLLOWING 6 QUESTIONS TO ANSWER

1. **(Ricardian Model with Many Goods)** We are given the following marginal products of labor for Mexico and Canada:

Table 1: MPL_i for Mexico and Canada

Good i	Mexico	Canada
Computers	$\frac{5}{2}$	5
Beef	30	15
Wood products	30	30
Grain	3	2

   (a) List these goods from greatest to least comparative advantage for Mexico relative to Canada.

   (b) Suppose that the wage in Mexico relative to Canada ($\frac{w^{MEX}}{w^{CAN}}$) equals 1.5. List the goods that each country produces.

   (c) Now suppose that a harsh winter kills off half of Canada's work force. Explain what may happen to the pattern of production across the two countries. Note that I have not provided sufficient structure in the question for you to give me a definitive answer. Simply provide a plausible response using as much intuition from the multi-good Ricardian model as you can.

2. (**H-O Model with Import Tariffs**) In a Heckscher-Ohlin world, suppose that Home and Foreign produce two goods: drones and curtains using labor (L) and capital (K). Drones are capital-intensive while curtains are labor-intensive. Furthermore, Home is capital abundant while Foreign is labor abundant.

   (a) We begin this question at the free trade equilibrium. Describe the pattern of trade when Home and Foreign open their markets up to each other. Detail which factor benefits in each country.

   (b) Now suppose that the government in Home imposes a tariff on all imported curtains from Foreign. Assume that both countries are small and the market structure is one of perfect competition. Describe what happens to the following in Home:

      (i) The relative price of drones

      (ii) Quantity produced in each sector

      (iii) Relative demand for labor

      (iv) Real payments made to labor and capital

   (c) Based on your answers above, determine whether you agree or disagree with the following statement: "With the imposition of an import tariff, the abundant factor is made better off while the scarce factor is worse off, regardless of which bundles they consume."

3. (**Imperfect Competition**) Consider a monopolist in partial equilibrium who initially faces demand curve D_1 as shown below, and whose marginal cost is constant at c.

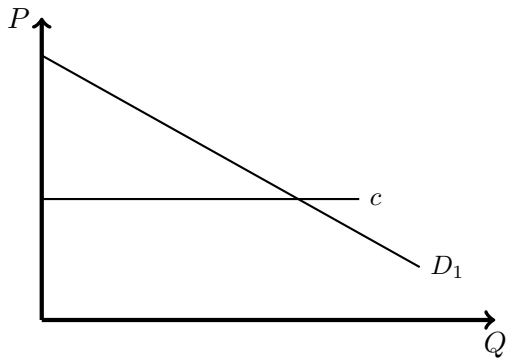

Figure 1: Monopolist

(a) Draw out the profit-maximizing equilibrium for this monopolist. Label the equilibrium price and quantity.

(b) Suppose now that the demand curve becomes everywhere more elastic, but continues to pass through the same price-quantity point that you found to be optimal in (a). Construct the new equilibrium for the monopolist and compare it to the old, in terms of price, quantity, and profit.

(c) Explain what your answer to part (b) could have to do with international trade.

4. **(Tariffs, Welfare, and Elasticities)** Suppose that Home is a small country operating under perfect competition. Suppose that domestic supply is perfectly elastic at a price higher than the world price. In this question, we wish to determine the welfare effects of an import tariff starting from free trade

(a) Draw out the supply and demand curves for the Home market in autarky

(b) State and justify whether the following is true or false: "When Home opens up to free trade, it will import the full quantity demanded by consumers, thereby reducing the welfare of Home producers."

(c) Starting from free trade, assume that Home imposes a tariff, τ. Consider the deadweight loss that arises from imposing τ. Compare this deadweight loss to the standard scenario with an upward sloping domestic supply curve.

5. **(Export Subsidy)** Islandia is a small exporting country with supply and demand given by the following equations

$$D = 100 - 5P$$
$$S = 10P - 50$$

Suppose the free-trade world price is \$12 per unit.

(a) In the absence of any barriers to trade, what is domestic consumption and production? How much is exported?

(b) Suppose that Islandia's government offers the island producers an export subsidy of \$3 per unit. In addition, the government imposes a tariff of \$3 per unit on imports.

(i) Why would a government simultaneously impose import tariffs on goods for which it applies export subsidies?

(ii) Calculate the price paid and the quantity demanded by Islandia consumers.

(c) Calculate the net effect of the export subsidy on Islandia welfare.

6. **(FDI Inflow)** Suppose a country has two specific factors: land and capital. Land is an input in the production of corn. Capital is used only in the production of rockets. A third factor, labor, is mobile between the two sectors. Holding all else constant, what is the effect of an increase in the amount of available capital in the short run

   (a) on the real return on capital?

   (b) on the real return of the mobile factor of production?

   (c) on the output of corn and rockets?