International Economics – Sample exam questions 1

Multiple choice questions (2 points for correct answer, 0 for blank answer, -1 for wrong answer)

1. In the Ricardian framework the unit labor requirement for good X is a_X=4 hours/liter and that of good Y is a_Y=2 hours/Kg. The marginal productivity of labor in industries X and Y is, respectively,
   a) MPL_X=4 liters/hour and MPL_Y=2 Kg/hour
   b) MPL_X=¼ liters/hour and MPL_Y=½ Kg/hour
   c) MPL_X=½ liters/hour and MPL_Y=½ Kg/hour

2. Consider the Brander-Spencer framework of strategic trade policy. If there is **cooperation** among the two governments
   a) there will be a subsidy paid to firms ($u=u^*>0$)
   b) there will be a tariff/tax paid by firms ($u=u^*<0$)
   c) there will not be either a subsidy or a tariff ($u=u^*=0$)

3. In the Ricardian framework with two countries (Home and Foreign) and labor as factor of production consider the following unit labor requirements for the Cheese and Wine industries:

	Cheese	**Wine**
Home	1 hour/pound	3 hours/gallon
Foreign	5 hours/pound	4 hours/gallon

If in the free-trade equilibrium the relative price of cheese and wine is equal to 1, the wage in Home relative to the wage in Foreign is:
   a) 4
   b) 0.3
   c) 1

4. When a big country levies a tariff on imports
   a) the terms of trade change so that imports become relatively cheaper
   b) the terms of trade change so that imports becomes relatively more expensive
   c) the terms of trade do not change

Traditional trade theories

Let us consider the general traditional model. In autarchy, in country *H* two goods are produced, *X* and *Y*, whose prices are p_X and p_Y, respectively. Two factors of production are employed, capital (*K*) and labor (*L*), whose prices are *r* and *w*, respectively.

i) Represent graphically the production possibility frontier (transformation curve). Given a relative autarchy price p_X/p_Y, show graphically the quantity produced of *X* and *Y* in the economy. What is the necessary analytic condition that has to be satisfied when firms maximize profits?

ii) If consumers total income is *I*, write the analytic expression of the budget constraint, and represent it graphically. Given the aggregate utility function *U(X,Y)*, and given the budget constraint, show graphically the quantities demand of *X* and *Y*. What is the necessary analytic condition that has to be satisfied when consumers maximize utility?

iii) At the relative equilibrium autarchy price, p_X^A/p_Y^A, the quantities demanded of *X* and *Y* are exactly equal to the quantities supplied by domestic firms (*market clearing*). Show graphically the autarchy equilibrium employing the transformation curve and the aggregate indifference curve.

Let us suppose now that county *H* opens up to international trade. The equilibrium relative price in international markets is p_X^T/p_Y^T, being **greater** than p_X^A/p_Y^A.

iv) Show graphically what are the quantities produced and demanded of *X* and *Y* at the new price p_X^T/p_Y^T. Is country *H* an importer of good *X*? And what about good *Y*?

Let us now consider the Heckscher-Ohlin framework. Let us suppose a two- country world where, at the international level, only one other big country *F* exists. We also know that good *Y* is relatively intensive in the use of labor in the production process of both countries:

$$\frac{a_{KY}}{a_{LY}} < \frac{a_{KX}}{a_{LX}}.$$

As before, after trade is opened up, the equilibrium price on international markets is $\hat{p} = p_X^T / p_Y^T$, being **greater** than $p_X^{A,H}/p_Y^{A,H}$ (autarchy equilibrium relative price of country *H*).

v) Is country *H* relatively abundant in capital or labor with respect to country *F*? What was the line of reasoning that you followed?

“New trade” theories

Consider the **variety effect** framework. Suppose that fixed costs for a firm in the automobile industry (start-up costs of factories, capital equipment, and so on) are $5,000,000 and that variable costs are equal to $18,000 per finished automobile. The market elasticity of demand is assumed to be equal to 2. Assume that the size of the U.S. and the European labor forces are 250 million and 360 million people, respectively.

i) Calculate the equilibrium number of firms in the U.S. and European automobile markets without trade [hint: $n_A=L/(f\sigma)$].

ii) What is the equilibrium price, operating margin and quantity-per-firm of automobiles in the United States and Europe if the automobile industry is closed to foreign trade? [hints: $p=\sigma c/(\sigma-1)$; $q=f(\sigma-1)/c$]

iii) Now suppose that the United States decides on free trade in automobiles with Europe. How many automobiles firms will there be in the United States and Europe combined? What will be the new equilibrium price, operating margin and quantity-per-firm of automobiles?