Study Questions

Lecture 3
Comparative Advantage
and the Gains from Trade

Part 1: Multiple Choice

Select the **best** answer of those given.

1. According to the theory of comparative advantage, which of the following is **not** a reason why countries trade?

   a. Comparative advantage.
   b. Costs are higher in one country than in another.
   c. Prices are lower in one country than in another.
   d. The productivity of labor differs across countries and industries.
   e. Exports give a country a political advantage over other countries that export less.

2. Which of the following statements would a mercantilist **not** agree with?

   a. Imports are desirable.
   b. Trade is a zero-sum activity.
   c. The purpose of trade is to amass revenues from exports.
   d. A country can benefit by granting monopoly rights to individuals.
   e. Policies should promote exports and discourage imports.

3. If all prices in one country (country A) are higher than all prices in another country (B) when compared at the wage rates that happen to prevail in the two countries, and if the countries share the same currency, then if the nominal wage rate in country B remains fixed

   a. The nominal wage rate in country A will have to fall.
   b. Unemployment must be higher in country B than in country A.
   c. The real wage in country A must be higher than in country B.
   d. Workers in country A must be less productive than workers in country B.
   e. Trade cannot be beneficial for country A.

4. According to the theory of comparative advantage, a country will export a good only if

   a. It can produce it using less labor than other countries.
   b. Its productivity is higher in producing the good than the productivity of other countries in producing it.
   c. Its wage rate in producing the good is lower than in other countries.
   d. Its cost of producing the good, relative to other goods, is at least as low as in other countries.
   e. All of the above.

5. Suppose that Austria and Belgium have the unit labor requirements for producing steel and brooms shown in the table at the right. Then

Unit labor requirements		Country: Austria	Belgium
Good	Steel	3	8
	Brooms	2	1

   a. Belgium has a comparative advantage in brooms.
   b. Austria has a comparative advantage in steel.
   c. Austria has an absolute advantage in steel.
   d. Belgium has an absolute advantage in brooms.
   e. All of the above.

6. Suppose that Australia and Brazil have the outputs per worker in producing sleds and clarinets shown in the table at the right. Then Brazil has a

Output per worker		Country: Australia	Brazil
Good	Sleds	300	200
	Clarinets	2	1

   a. Comparative advantage in sleds.
   b. Comparative advantage in clarinets.
   c. Absolute advantage in sleds.
   d. Absolute advantage in clarinets.
   e. None of the above.

7. According to the theory of comparative advantage, countries gain from trade because

   a. Trade makes firms behave more competitively, reducing their market power.
   b. All firms can take advantage of cheap labor.
   c. Output per worker in each firm increases.
   d. World output can rise when each country specializes in what its does relatively best.
   e. Every country has an absolute advantage in producing something.

8. If international trade takes place as a result of comparative advantage, it will cause which of the following effects in the participating countries?

    a. Inequality among households will be reduced.
    b. All individuals in each country will be better off.
    c. The average well-being of people in both countries will increase.
    d. Both countries will grow faster over time.
    e. All of the above.

9. Scholars at MIT recently tested the theory of comparative advantage. One problem with doing this is that

    a. The theory was never meant to apply after the 19^{th} century.
    b. One cannot observe productivity in industries that are not producing.
    c. Countries keep their data on international trade secret.
    d. The theory is only valid if the world really only produces two goods.
    e. The theory turned out to be incorrect.

10. Clyde Prestowitz, in his assigned reading, cites a study that measures various costs of US trade with China. Which of the following is *not* one of those costs?

    a. Unemployment compensation paid by government
    b. The income lost by workers who become unemployed
    c. Food stamps
    d. Lost tax receipts
    e. School budgets

Part II: Short Answer

Answer in the space provided.

1. Define the following terms:

    a. Trade Adjustment Assistance:

    b. Opportunity cost:

c. Absolute advantage:

2. Each table below shows the amounts of labor required to produce one unit of each of two goods, X and Y, in two countries, A and B. In each case, identify which country has a comparative advantage in good X.

a.

	Country	
Good	A	B
X	1	6
Y	4	8

b.

	Country	
Good	A	B
X	3	6
Y	4	12

c.

	Country	
Good	A	B
X	8	6
Y	4	2

3. The table here, unlike those above, shows labor productivities, i.e., outputs per worker. That is, these numbers report the quantity of output per unit of labor that each country can produce in the two industries, X and Y. Determine which country has

a. Absolute advantage in good X.

b. Absolute advantage in good Y.

c. Comparative advantage in good X.

d. Comparative advantage in good Y.

Output per Worker

	Country	
Good	A	B
X	8	6
Y	4	2

4. The table on the left below shows labor endowments of two countries, Stonia and Venia, and their unit labor requirements for producing two goods, stuff and nonsense. The table on the right shows the quantities of these two goods that each produces in autarky, and below that has cells to record what they might consume with free trade.

	Stonia	Venia
Labor	300	600
Unit labor requirements		
Stuff	2	4
Nonsense	1	5

	Stonia	Venia
Autarky consumption		
Stuff	90	40
Nonsense	120	88
Free trade consumption		
Stuff		
Nonsense		

a. Fill in these empty cells, assuming that each country specializes completely in (that is, uses all of its labor to produce only) the good in which it has a comparative advantage. Assume that with trade Stonia is consumes exactly 2/3 of the two countries' combined output of each good.

b. How much does each country export and import of each good in the free trade situation? Is there evidence here that the countries have gained from trade?

5. The table below shows the unit labor requirements for five goods in two countries.

	Lugubria	Elatia	Ratio
Turnips (hr/lb)	14	8	
Elbow grease (hr/qt)	42	35	
Fish netting (hr/yd)	140	70	
Nicotine patches (hr/100)	33	30	
Pianos (hr/piano)	1200	960	

a. For each good, calculate the ratio of the unit labor requirement in Lugubria to that in Elatia, and record it in the far right column.

b. Suppose now that in the absence of any trade, the wage of labor in Lugubria is \$4.00/hr and the wage in Elatia is \$10.00/hr. Fill in the table below with the autarky prices of each good in each country.

	Lugubria	Elatia
Turnips ($/lb)		
Elbow grease ($/qt)		
Fish netting ($/yd)		
Nicotine patches ($/100)		
Pianos ($/piano)		

c. If the wage in Lugubria is fixed, in what direction must the wage in Elatia change, if the two countries open to free trade, in order for both countries to have something that they can export to the other? What are the highest and the lowest wages that can prevail in Elatia with free trade, given the $4.00/hr wage in Lugubria? For which of the five goods can you predict with certainty the pattern of trade, and what is it?

d. Suppose that a free trade equilibrium is achieved with a $4.00 wage in Lugubria and a wage exactly half way between the minimum and maximum that you found in part (c). Fill in the table below with the world prices of each good and the name of the country that will export it.

	World Price	Exported by
Turnips ($/lb)		
Elbow grease ($/qt)		
Fish netting ($/yd)		
Nicotine patches ($/100)		
Pianos ($/piano)		

e. Suppose that workers in both countries work 40 hours per week, 50 weeks per year, or 2000 hours per year. Calculate their annual incomes in units of each good, both in autarky and free trade, and record them below. (Hint: for each, just multiply 2000 times the wage and divide by the prevailing price of the good.) In what sense, if any, have these workers gained from trade?

	Lubugria		Elatia	
	Autarky	Free Trade	Autarky	Free Trade
Turnips (lb/yr)				
Elbow grease (qt/yr)				
Fish netting (yd/yr)				
Nicotine patches (100/yr)				
Pianos (pianos/yr)				