**International Trade Tutorial I 12.02.2020**

1. (a) Which of the following characterize the Heckscher-Ohlin Model? 4
2. Perfect mobility of factors across countries **No**
3. Identical technologies across industries **No**
4. Monopolistic competition **No**
5. Factor intensity reversals **No** (These are assumed not to occur.)

(b) Assume that only two countries, A and B, exist in the world. Refer to the table below which reports the endowments of labour and capital in the two countries and answer the following two questions.

|  |  |  |
| --- | --- | --- |
| **Factor Endowments** | **Countries** | |
| **A** | **B** |
| **Labour Force** | 45 | 20 |
| **Capital Stock** | 15 | 10 |

1. If good S is capital intensive, then according to the Heckscher-Ohlin theory, what would be the pattern of trade? Argue in favour of your answer. 2

Answer: Country B will export good S

1. How will your answer to the above question change if you are told that Country B is **very** much richer than Country A? Argue in favour of your answer. 2

Answer: No change (homothetic taste rules out income effect)

1. Consider the following data on two countries, A and B:

|  |  |  |
| --- | --- | --- |
| Be careful! | Australia | Bolivia |
| 1994 Population (millions of persons) ABSOLUTE POPULATION IS IRRELEVANT | 17.8 | 7.2 |
| Capital stock per worker (1985 international prices) THIS IS THE K/L RATIO! | $37,854 | $5,721 |

a.       Which country is capital abundant and why?  
  
Australia has the greater K/L ratio and therefore has more capital per worker. This is the quantity definition of capital abundance.

b.      Which country is labor abundant and why?  
  
Bolivia has the greater L/K ratio and therefore is labor abundant by the quantity definition.

c.       Supposing that the good T (toupees) is labor intensive relative to good S (Sombreros), which country will have a comparative advantage in the production of T? Explain your answer.  
  
Bolivia has a comparative advantage in T, according to the Heckscher-Ohlin Theorem, which states that a country will have a comparative advantage in the good that is intensive in the factor with which they are relatively well endowed. This endowment reduces the opportunity cost of producing the good.

d.      Which country will have a comparative advantage in the production of S? Explain your answer.   
  
Australia has a comparative advantage in S (the relatively K-intensive good), according to the Heckscher-Ohlin Theorem, which states that a country will have a comparative advantage in the good that is intensive in the factor with which they are relatively well endowed.

e.       Which factors gain and which lose when trade is opened between the two countries? Explain carefully.  
  
According to the Stolper Samuelson Theorem, the abundant factor gains while the scarce factor loses. In Australia, capitalists gain as rents rise, but laborers lose as wages fall. In Bolivia, capitalists lose as rents fall, but laborers gain as wages rise.

1. Assume that two goods, cloth and food, are produced using two factors- labour and land. The input requirements and the endowments are given in the table below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Unit Labor requirement | Unit Land requirement | Labor (L) | Land (T) |
| Cloth | aLC = l0 | aTC = 5 | l00 | l00 |
| Food | aLF = 2 | aTF = 4 |

1. Draw the production possibility frontier with two factors.
2. What happens to domestic production if only the endowment of labour expands by 20 units? Explain your answer with theoretical support.
3. How will be the pattern of trade with a foreign country with identical demand but with a relatively higher endowment of land? 7.5

(b) Clothing is more labor intensive Food is more land-intensive

Clothing production will expand.

1. HC will export clothing and import food from FC.

export the good that uses intensively the factor that you are relatively well endowed with

Q (Food)

L/alf = 50

T/atf=25

Labor Constrain Land Constraint

l0=L/alc 20=T/atc

Q (Cloth)

Where is the PPF exactly? Food production is "bounded" by the land requirement and cloth production is "bounded" by labor. The PPF is the internal shaded area--it is now kinked.

What happens if the endowment of labor expands? According to the Rybczynksi theorem, we would expect the production of cloth to increase by more than the increase in the endowment of labor, and the production of food to fall. Intuition: cloth production was "bounded" before by a lack of labor.

Say labor increases to l20 then we get:

## L = l20 = 60

alf 2

Labor Constraint shifts Out:

## L = l20 = l2

alc l0

60

Lo 50

L

l

25

Food

•

This provides the intuition for why countries with more labor would produce alot more labor- intensive goods. But why do they export these goods?

With trade, prices are assumed to equalize across countries. So if our endowment is relatively labor-intensive compared to other countries, we will be willing to supply relatively more of the labor- intensive good. So the relative price with world trade for that good will be higher than in autarky (without trade), just as in the Ricardian framework. If cloth is labor-intensive, we will be willing to export more cloth than others at the world price: