

Prelims Microeconomics – Michaelmas Term 2020

Tutorial Sheet 1

Problems

1. Explain the nature of the opportunity costs of the following activities:

- (a) Attending a lecture.
- (b) Spending time on a train.
- (c) Extracting oil from underground.
- (d) [Popularised by Robert Frank] You have won a free ticket (which has no resale value) to see an Eric Clapton concert. Bob Dylan is performing on the same night and is your next-best alternative activity. Tickets to see Dylan cost £40. On any given day, you would be willing to pay up to £50 to see Dylan. Assume there are no other costs of seeing either performer. What is the opportunity cost of seeing Eric Clapton: £0, £10, £40, or £50?

2. The table shows labour endowments of two countries, A and B, and their unit labour requirements for producing two goods, 1 and 2.

| | A | B |
|------------------|-----|-----|
| Labour resources | 500 | 300 |
| Good 1 | 2 | 2 |
| Good 2 | 4 | 1 |

The next table shows the quantities of the two goods that each produces and consumes in autarky.

| | A | B |
|--------|-----|-----|
| Good 1 | 150 | 100 |
| Good 2 | 50 | 100 |

- (a) Draw, on the same graph, the production possibility sets for each of the two countries.
- (b) Compare the two countries in terms of absolute and comparative advantage.
- (c) Suppose that each country now specialises completely in the good in which it has a comparative advantage and that, with trade, A consumes three fifths of the two countries' combined output of each good. Draw the joint production possibility set and show the point where aggregate (joint) production will be.
- (d) How much of each good will each country produce, export and consume?
- (e) Is there evidence here that the countries have gained from trade?

3. The table below shows the unit labour requirements for four goods in two countries A and B. For our purposes we might wish to think of A as “the rest of the World” and B as some country of interest.

| | Country A | Country B |
|------------------------------------|-----------|-----------|
| Rubber chickens (hours/chicken) | 2 | 4 |
| Trousers (hours/pair) | 2 | 2 |
| Poison gas (hours/kg) | 4 | 3 |
| Beauty products (hours/millihelen) | 3 | 2 |

In the absence of trade, wages in A are £4/hour and in B are much higher: £8/hour.

- For each good, calculate the ratio of the unit labour requirement in each country.
- What are the autarky prices of each good in each country?
- If the wage in A (“the rest of the World”) is fixed, in what direction must the wage in B 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 B with free trade, given the £4/hr wage in A?
- For which of the goods can you predict with certainty (given our assumptions) the pattern of trade, and what is it?
- Suppose that a free trade equilibrium is achieved with a £4/hr wage in A and a wage in B which is exactly at the mid-point of the range that you found on part (d). What will be the world prices of each good, and which country will export it?
- Suppose that workers in both countries work 40 hours per week, 50 weeks per year. Calculate their annual incomes in units of each good, both in autarky and free trade. In what sense, if any, have these workers gained from trade? Why (briefly) do workers in B appear to have gained, even though their wages are lower due to the effects of trade?
- What general lessons do you draw from this example?

4. Exercise 2.3 from Core-Econ “The Economy”: Isocost lines.

Questions

- According to George Box, the statistician, “All models are wrong”. If this is the case, then why do economists continue to rely on formal models?
- Economic methodology is traditionally based on the natural sciences. How far are such methods appropriate to the study of a social science?
- How important is the realism of economic assumptions?
- Is free trade ever bad?
- Exercise 1.2 from Core-Econ “The Economy”: Working with income data (downloadable), to calculate the 90/10 ratio, discuss differences between countries and over time.
- Exercise 2.1 from Core-Econ “The Economy”: Maps and economic models.
- Exercise 2.2 from Core-Econ “The Economy”: Using *ceteris paribus*.
- Exercise 2.5 from Core-Econ “The Economy”: Why did the Industrial Revolution not happen in Asia?