

# PRINCIPLES OF MICROECONOMICS, SEMESTER 1 2016

## Tutorial 2 (Week 3)

**Q1.** Imagine that the Japanese and Chinese economies only produced cars and laptops. Below is a table showing the production possibilities for both Japan and China if they were to fully specialise in each good only:

|                         | Japan | China |
|-------------------------|-------|-------|
| Cars only (millions)    | 40    | 120   |
| Laptops only (millions) | 80    | 160   |

a. Draw a PPC for both Japan and China.

We would expect the PPC to bend outwards (increasing opportunity costs)

b. From now on, assume that there are constant opportunity costs.

Which country has an absolute advantage in producing cars? Which country has the comparative advantage? [Hint: Compare the opportunity costs!]

China has the absolute advantage in producing cars, and the comparative advantage (China's opportunity cost in producing one car is  $1\frac{1}{3}$  laptops, for Japan it is 2 laptops).

c. Which country has an absolute advantage in producing laptops? Which country has the comparative advantage? [Hint: Compare the opportunity costs again!]

China has the absolute advantage in producing laptops, and Japan has the comparative advantage (China's opportunity cost in producing one laptop is  $\frac{3}{4}$  car, for Japan it is  $\frac{1}{2}$  car).

d. What would be the production and consumption of cars and laptops in each country without trade?

We don't know! We would need to know consumer preferences to answer this question. However, we would know that the country would seek to produce on the PPC.

e. In terms of laptops, what is the range of prices for cars for which we could expect trade between China and Japan? What is it in terms of cars?

It is the range between the opportunity costs; i.e. the price of a laptop would be between  $\frac{1}{2}$  and  $\frac{3}{4}$  of a car, and the price of a car would be the inverse, i.e. between  $1\frac{1}{3}$  and 2 laptops

f. Assume that the world price was 1 car for 1.5 laptops. Find a combination of production decisions and trade deal that would leave both parties better off.

There are many! But here is one: Japan fully specialises according to its comparative advantage, and produces 80 laptops. China does the same, producing 120 cars. Japan trades 60 of its laptops and receives 40 of China's cars in return. Japan then has 20 laptops and 40 cars, China has 60 laptops and 80 cars.

g. Draw the possible range for trade separately on a same graph of Japan's PPC and China's PPC.

See Lecture 2, slide 20 for ideas on how to do this.

**Q2.** John owns a hairdressing salon. What would his factors of production be? What would the wage he pays himself be called in economic terms?

L, K, entrepreneurship (perhaps some land for the salon also). As the provider of entrepreneurship, John will receive profit.

**Q3.** Why are property rights seen by most economists as a precondition for markets to operate?

They help to provide certainty and reduce risks to transactions, and are widely believed to make markets more efficient the more legally/socially enforceable they are.

**Q4.** What is utility? How is it relevant to how economists understand the demand curve?

Utility is the satisfaction derived from a product by the consumer. We know that the utility that a consumer receives from a product decreases for each additional unit of the product that they receive. Thus the prices must go down in order to induce consumers to buy greater and greater quantities of a product, reinforcing the inverse relationship of price and quantity (the law of demand).

**Q5.** The following functions are for the bicycle market in Korea:

$$Q_D = 6 - P/3$$

$$Q_S = P + 2$$

a. Find the equilibrium price and quantity in the market

At equilibrium,  $Q_D = Q_S$ ; thus:

$$6 - P/3 = P + 2$$

$$6 - 2 - P/3 = P$$

$$4 = P + (1/3)P$$

$$4 = 1.333P$$

**$P^* = 3$** ; substitute  $P = 3$  into  $Q_D$  or  $Q_S \Rightarrow$   **$Q^* = 5$**

b. Graph the market

*Explained in tutorials*

**Q6.** Using the Korean bicycle market again, graph and explain what would happen to the equilibrium price and quantity in the market if:

a. The Korean government increases the tax on cars

Expansion in demand =>  $\uparrow P$ ,  $\uparrow Q$  [cars and bicycles are substitutes, even if not close substitutes]

b. Due to cheap bicycle parts from China, the cost of maintaining a bicycle decreases

Expansion in demand =>  $\uparrow P$ ,  $\uparrow Q$  [I assumed it did not affect the cost of *producing* bicycles, thus no shift in S]

c. Heart disease is on the rise in Korea

Expansion in demand =>  $\uparrow P$ ,  $\uparrow Q$  [The rising rates of heart disease would incentivise people to become healthier, leading to an expansion in demand]

d. Scooters become very trendy in Seoul and Pusan

Contraction in demand =>  $\downarrow P$ ,  $\downarrow Q$  [scooters and bicycles are substitutes]

e. There is a massive spike in the world price of oil

Expansion in demand =>  $\uparrow P$ ,  $\uparrow Q$  [increased cost of oil means that petrol/diesel will be more expensive, making cars - a substitute of bicycles - less attractive to purchase or run]

However, there is also likely to be contraction in supply =>  $\uparrow P$ ,  $\downarrow Q$  [increase in cost of oil increase the cost of supplying most goods in an economy, due to transport/distribution costs increasing - much of the production process for manufactured goods also requires fuel to help produce]

Without knowing the size of each shift, we cannot be sure whether Q is increasing or decreasing overall. However, P is definitely going up!

f. The government bans bicycles in Korea

Contraction in demand, contraction in supply (as people are scared about getting caught trading bicycles illegally) =>  $\downarrow Q$ , ambiguous effect on price [depends on whether the supply shift or the demand shift is bigger]