
ECO101 – INTRODUCTION TO MICROECONOMICS

Assignment

STUDENT NAME	STUDENT ID	SECTION

DATE OF SUBMISSION:
MARKS SCORED:

Instructions:

There are three questions in total (with five parts in each question), focusing on Lecture 1, 2 and 3. To obtain full marks you must:

- ❖ Show all the steps of your workings
- ❖ Draw and label your diagrams clearly and properly
- ❖ Give your final answers to the nearest two decimal points (if applicable)
- ❖ Make sure your answers are clear and concise
- ❖ Mention the units in your final answer

1. Consider in Canada a worker can produce 40 barrels of oil or 40 tons of lumber. In Venezuela, a worker can produce 6 barrels of oil or 30 tons of lumber.

Country	Oil (barrels)	Lumber (tons)
Canada	40	40
Venezuela	6	30

Based on this information provided, answer the following questions.

- a) Which country has the absolute advantage in the production of oil and/or lumber?
- b) Which country has a comparative advantage in the production of oil and which country has a comparative advantage in producing lumber?
- c) Given answer to part (b), in what product should Canada specialize? In what product should Venezuela specialize?
- d) Suppose, initially a worker in Canada produces 20 barrels of oil and 20 tons of lumber, whereas a worker in Venezuela produces 5 barrels of oil and 5 tons of lumber. However, given the comparative advantage found in part (b), each worker decides to specialize in the production of the goods that they have comparative advantage in and trade with one another (as given in the table below). Based on the information provided, illustrate the gains from trade in a well labelled diagram.

Production		
Country	Oil (barrels)	Lumber (tons)
Canada	35	5
Venezuela	0	30

Trade		
Country	Oil (barrels)	Lumber (tons)
Canada	Sell 10	Buy 20
Venezuela	Buy 10	Sell 20

- e) Now suppose the following PPFs below describe the output per worker in Canada and Venezuela.

Country	Oil (barrels)	Lumber (tons)
Canada	30	60
Venezuela	10	20

Based on the new information provided above, determine how the decision to trade may change for Canada and Venezuela. Justify your answer using the concept of opportunity cost.

2. Consider market for flathead fish with the following demand and supply equations,

$$\text{Demand: } Q_d = 100 - 2P$$

$$\text{Supply: } Q_s = P - 20$$

- Find the initial market equilibrium price and quantity.
- Suppose the price of fuel used for operating fishing boats increases. At the same time, it is found that fish is a crucial element of a healthy diet and promotes many health benefits. If the effect of fuel price for operating the boats outweighs the effect of the discovery of the healthy elements in fish, by using demand and supply diagram, explain how the initial equilibrium price and quantity changes in the market for fish.
- Suppose the government relaxes fishery regulations, allowing a greater quantity of fish to be caught. At the same time, the price of chicken falls significantly. Assuming that both events have equal effects, use a demand and supply diagram to explain how the initial equilibrium price and quantity in the fish market changes.
[Hint: fish and chicken are close substitutes as source of protein]
- Based on your answer to part (a), if the market price of flathead fish was capped at \$45, calculate shortage/surplus in the market.
- Now consider that the market demand for flathead fish changes to the following:

$$\text{New Demand: } Q_d = 115 - 2P$$

How does your answer differ from that of part (c) in terms of shortage/surplus for flatheads.

3. Consider the following equation that represents the demand for Uber.

$$\text{Demand: } Q_d = 200 - 4P_U + I + 3P_b$$

Where,

Q_d = quantity demanded for Uber

P_U = price (fare) of Uber

P_b = price (fare) of bus

I = consumer income

Assuming that initially $P_U = \$10$, $I = \$50$ and $P_b = \$20$

- Calculate the **price elasticity of demand (PED)** when Uber fare increases from \$10 to \$12 and comment on your answer.
- Calculate the **income elasticity of demand (YED)** for Uber when income increases from \$50 to \$60 and interpret your answer based on the value of **YED**.
- Calculate the **cross-price elasticity of demand (XED)** for Uber when the bus fare increases from \$20 to \$24 and interpret your answer based on the value of **XED** that you just calculated.
- Suppose, the **price elasticity of demand (PED)** for Bus is 0.6. When the bus fare decreases by 10%, what would we expect to happen to the quantity demanded?
- Based on the information provided in part (d), interpret the value of **PED** and comment what would the bus companies do in terms of bus fare to inflate their level of revenue earnings? Explain your answer with the help of a diagram.