

IGS 8A Fall 2025

Problem Set Two (due Monday, September 22nd by class time)

1. Opportunity Cost and Comparative Advantage: Estonia and the rest of the world produce two goods, computer programs and takeout meals. Workers in Estonia take 90 minutes to produce a computer program and 30 minutes to make a takeout meal. Workers in the rest of the world take 100 minutes to produce a computer program and twenty minutes for a takeout meal.

- a. Calculate the opportunity costs of computer programs and furniture in the two economies.

Minutes of Labor to Make	Estonia	Rest of World
One computer program	90	100
One takeout meal	30	20
Opportunity Costs	Estonia	Rest of World
One computer program
One takeout meal

- b. Estonia has an absolute advantage in the production of (computer programs/meals/neither/both) and the rest of the world has an absolute advantage in the production of(computer programs/meals/neither/both).
- c. Estonia has a comparative advantage in the production of(computer programs/meals/neither/both) and the rest of the world has a comparative advantage in the production of (computer programs/meals/neither/both).
- d. Once trade begins, we can predict that the international “price” of computer programs will lie betweenmeals andmeals.

2. Market Equilibrium and Elasticity: Suppose business travelers and vacationers have the following demand schedule for a return flight from Boston to New York:

Price in \$	Quantity Demanded by business travelers	Quantity Demanded by vacationers
250	2,100 tickets	1,000 tickets
300	2,000	800
350	1,900	600
400	1,800	400

- a. Does the information above conform with the “Iron Law of Demand”? If so, why?
- b. As the price of tickets rises from \$300 to \$350, what is the price elasticity of demand for (i) business travelers and (ii) vacationers? Please use the midpoint method to compute elasticity as described in Chapter Five of Mankiw and in the slides for lecture three. You can use a calculator or excel to calculate the percent change in price and quantity.

- c. Why might the quantity of airline tickets demanded by vacationers be more elastic with respect to price than the quantity demanded by business travelers?
 - d. Based on the elasticities that you computed, what will happen to the total revenue received by the airline from business travelers as the price goes from \$250 to \$300? Will it rise or fall?
 - e. How might the greater use of Zoom during Covid have affected the price elasticity of demand for airline tickets among business travelers?
3. With tensions between the US and Canada rising, some Canadians have decided not to travel to the US, with road trips from Canada to states in the US Northeast down.
- a. How will this affect the market for hotel stays in the Northeast? Will it affect the demand curve, the supply curve, both or neither? How will it affect the equilibrium price and quantity? Please show your answer on a diagram.
 - b. Do you think the supply of hotel rooms in the Northeast is elastic to price or inelastic – at least in the short to medium term? Why? Indicate on the diagram what this means for the slope of the supply curve. Related to this, what will change more with declining numbers of Canadian travelers, price or quantity?
 - c. Will hotel and inn owners see higher or lower total revenue this year? How do we know?
 - d. What will these changes mean for producer surplus in the market for hotel rooms?

Problems to Work through in Section

1. Using supply-demand diagrams, show the effects of the following events on the market for sweatshirts.
 - a. Rising gas prices affect the costs of transporting sweatshirts.
 - b. The price of leather jackets falls.
 - c. Colleges require morning exercise in appropriate attire.
 - d. New knitting machines for fabricating sweatshirt material are invented.
 - e. Students start a campaign against sweatshirts because of working conditions in factories.
2. For each of the following pairs of goods, which would you expect to have the more elastic demand and why?
 - a. College textbooks or mystery novels.
 - b. Beethoven recordings or classical music recordings in general.
 - c. Subway rides over the next six months or over the next five years.
 - d. Root beer or water.
3. The New York Times reported (in 1996) that subway ridership declined after a fare increase, “There were nearly four million fewer riders in December 1995, the first full month after the price of a ride increased 25 cents to \$1.50, than in the previous December, a 4.3 percent decline.”
 - a. Use this data to estimate the price elasticity of demand for subway rides.
 - b. According to your estimate, what will happen to the Transit Authority’s total revenue when the fare rises?
 - c. Why might your elasticity estimate be unreliable?
4. How elastic do you think demand for a college education is to price? How would we tell?