APEC 3001 Discussion

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Today's Agenda

1. Housekeeping
2. Subsidies Example (10 minutes)
3. Taxes & Tax Incidences Example (15 minutes)
4. Practice Problems - Breakout Rooms (15 minutes)
5. Teach Back & Questions (10 minutes)

Housekeeping

- State your presence in the Zoom chat for a record of attendance
- Take a minute to download these slides from Canvas under Week 3
- Second problem set posted and due this Thursday (Feb. 11th)
- Follow link in TA bio on course Canvas page to sign up for Wednesday office hours

Subsidies Example - Ethanol Market

Consider the supply and demand for ethanol in small town below,

$$Q_D = 9,000 - 1,000P$$
$$Q_S = 2,000P - 3,000$$

Where Q measures gallons per day and P represents the price per gallon. The current equilibrium price is \$4, and 5,000 gallons per day; suppose the government wants to create a subsidy of \$0.375 per gallon to encourage the use of ethanol

1. What will happen to the price buyers pay per gallon, the price sellers receiver per gallon, and the number of gallons consumed per day?
2. How much will this subsidy cost the government?

Taxes & Tax Incidences Example - Ice Cream Market

The demand for ice cream is given by $Q_D = 20 - 2P$, measured in gallons of ice cream. The supply of ice cream is given by $Q_S = 4P - 10$

1. Graph the supply and demand curves, and find the equilibrium price and quantity of ice cream

2. Suppose the government legislates a \$1 tax on a gallon of ice cream, to be collected from the buyer. Plot the new demand curve on the graph. Does demand increase or decrease as a result of the tax?

3. As a result of the tax, what happens to the price paid by buyers? What happens to the price received by sellers? How many gallons of ice cream are sold?

4. Who bears the greater burden of the tax?

5. Calculate the change in consumer and producer surplus after the tax

6. Calculate the deadweight loss of the tax

Practice Problem 1 - Beef Market

The beef supply and demand curves are $Q_S = 0.5P - 0.5$ and $Q_D = 2.5 - 0.5P$, where Q is measured in millions of pounds and P is measured in dollars per pound. Suppose the government has imposed a price floor of beef at \$4.00 per pound. Under the program, any unsold beef will be purchased by the government and placed in long-term storage.

1. Draw a graph representing the beef market. Represent the \$4/lb price floor on the graph

2. What is the cost to consumers in lost surplus? (Hint: Compare consumer surplus before and after price floor)

3. What is the cost to taxpayers to purchase the unsold beef?

4. How much producer surplus to sellers of beef gain?

5. What is the loss to society of the beef programs? (Hint: Think about the net cost to consumers, producers, and the government)

Practice Problem 2 - Soda Market

The supply and demand for soda in a market is represented by

$$Q_D = 12–8P$$
$$Q_S = 50P–60$$

Where Q is in millions of bottles per year and P is dollars per bottle, The current equilibrium price is \$1.17, and 2.62 million bottles are sold per year.

1. Calculate the price elasticity of demand and the price elasticity of supply at the current equilibrium
2. Calculate the share of a tax that will be borne by consumers and the share borne by producers
3. If a tax of \$0.10 per bottle is created, what do buyers now pay for a bottle? What will sellers receive?

Questions

Any remaining questions?

Additional Support Resources

- Boynton Mental Health Services
- Student Counseling Services
- Let's Talk
- Educational Workshops
- Academic Skills Coaching