CH-310-A Microeconomics - Theory and Policy

Chapter 6 of Krugman and Wells

Price elasticity of demand: some notes

- Definition of elasticity: $\epsilon = \frac{\frac{\Delta Q}{Q}}{\frac{\Delta P}{P}}$
- Rearranging: $\epsilon = \frac{P}{Q}\frac{\Delta Q}{\Delta P}$
- As a derivative: $\epsilon = \frac{P}{Q}\frac{\partial Q}{\partial P}$

Elasticity

If the price of a good is increased by 15% and the quantity demanded changes by 20%, then the absolute value of the price elasticity of demand is equal to:

(a) 0.75.

(b) approximately 0.33

(c) approximately 1.33

(d) 1.

Cheeseburgers

Suppose the price elasticity of demand for cheeseburgers equals 0.37. This means the overall demand for cheeseburgers is:

(a) price elastic.

(b) price inelastic.

(c) price unit-elastic.

(d) perfectly price inelastic.

Gasoline

The price of gasoline rises 5% and the quantity of gasoline purchased falls 1%. The price elasticity of demand is equal to *blank* and demand is described as *blank*.

(a) 0.2; inelastic.

(b) 5; inelastic.

(c) 0.2; elastic.

(d) 5; elastic.

Textbooks

The demand for textbooks is price inelastic. Which of the following would explain this?

(a) Many alternative textbooks can be used as substitutes.

(b) Students have a lot of time to adjust to price changes.

(c) Textbook purchases consume a large portion of most students' income.

(d) The good is a necessity.

Substitutes

If a good is a necessity with few substitutes, then the price elasticity of demand will tend to be:

(a) more price-elastic.

(b) less price-elastic.

(c) equal to 1.

(d) the same as that of a luxury good.

Vegetables

Demand for vegetables at a small farmers' market is steady, but the supply of vegetables has decreased due to a drought. This is good news for farmers if demand is:

(a) inelastic and the price effect outweighs the output effect.

(b) elastic and the price effect outweighs the output effect.

(c) inelastic and the output effect outweighs the price effect.

(d) elastic and the output effect outweighs the price effect.

Elasticity regions

Derive algebraically the different elasticity regions of a linear demand function $Q(P) = a - bP$ and illustrate the result with a graph.

The market for wheat

Supply 2010: $Q_S = 1800 + 240P$
Demand 2010: $Q_D = 3550 - 266P$

(a) How high is the market clearing price of wheat?

(b) How high is the market clearing quantity of wheat?

(c) How high are the price elasticities of supply and demand?

Assume that a drought results in an increase of the price to P=4. What is demand at this price? What is the new price elasticity of demand?