Economics 001
Principles of Microeconomics

Professor Arik Levinson

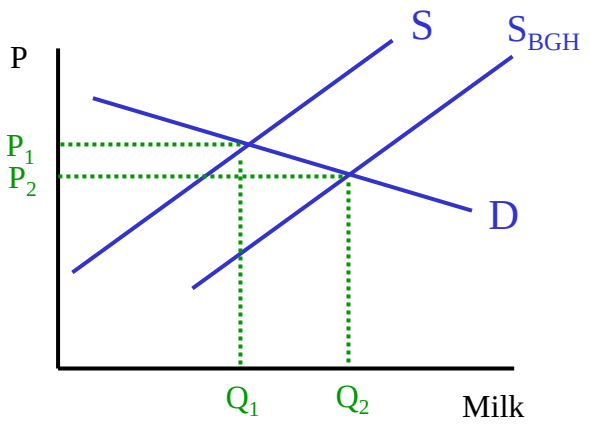
- Lecture 6
  - Elasticity
  - Price elasticity of Demand
  - Income elasticity
  - Cross-price elasticity

#

DN: Revenue = Price x Quantity

Revenue change depends on
"steepness" of demand curve

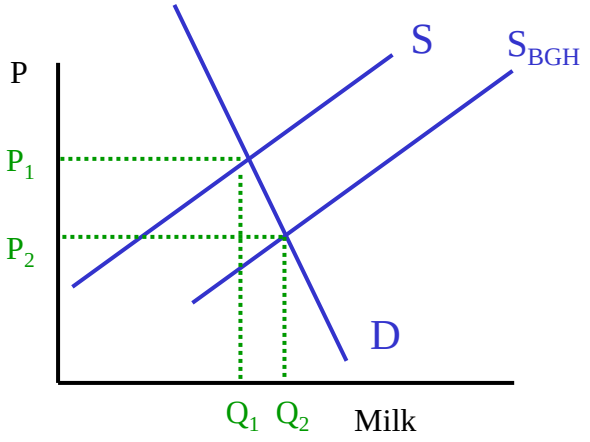
Demand curve shallow



$P_2Q_2 > P_1Q_1$

farmers favor BGH

Demand curve steep

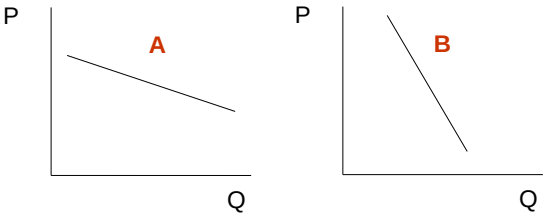


$P_2Q_2 < P_1Q_1$

farmers oppose BGH

The graphs below plot demand curves for

1. **the miracle cure for a fatal illness**
2. **Pizza Hut sausage pizza**



Which curve corresponds to the pizza?

A. **A**
B. **B**

DN: Price elasticity of demand

$$\eta_D = \left| \frac{\%\Delta Q_D}{\%\Delta P_D} \right|$$

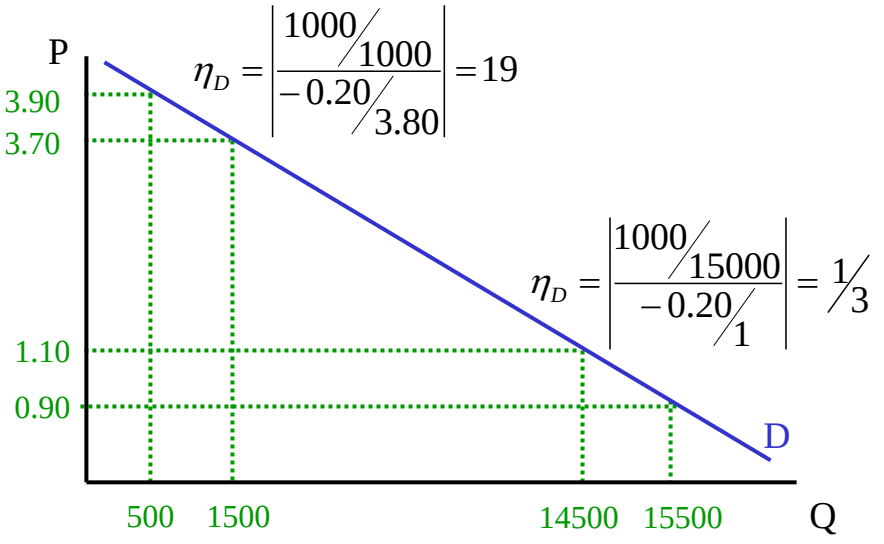
Arc Elasticity of Demand

$$\eta_D = -\frac{\frac{Q_2 - Q_1}{\frac{1}{2}(Q_1 + Q_2)}}{\frac{P_2 - P_1}{\frac{1}{2}(P_1 + P_2)}} = -\frac{\Delta Q}{\Delta P} \times \frac{P_1 + P_2}{Q_1 + Q_2}$$

DN: Demand is price elastic if $\eta_D > 1$

DN: Demand is price inelastic if $\eta_D < 1$

Figure 5-2 A Straight-Line Demand Curve



DN: Income elasticity of demand

$$\eta_Y = \frac{\%\Delta Q_D}{\%\Delta Y}$$

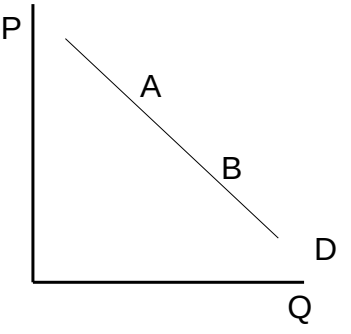
DN: Cross-price elasticity

$$\eta_{AB} = \frac{\%\Delta Q_A}{\%\Delta P_B}$$

i>clicker

Moving from point A to point B, right and down the (straight line) demand curve shown on the right, the price elasticity of demand...

a) increases.
b) decreases.
c) remains constant.
d) cannot be discerned from the information given.



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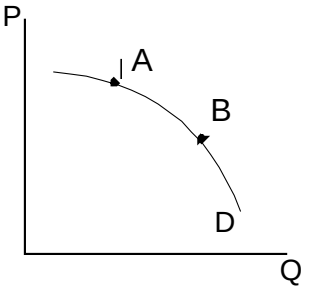
Moving from point A to point B, right and down the (curved) demand curve shown on the right, the price elasticity of demand...



a) increases.
b) decreases.
c) remains constant.
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