Barick Chung

Employment:
2014-present Senior Lecturer, Department of Economics, CUSZ – Shenzhen.
2012-2014 Lecturer, School of Economics and Finance, University of Hong Kong.
2006-2012 Instructor, Department of Economics, CUHK – Hong Kong.

Education:
2003-2007 Ph.D. (Business) Indiana University – Bloomington.
1987-1991 BS.Sc. (Economics) Chinese University of Hong Kong – Hong Kong.

Research paper:
Chung, Barick, "Two Level Price Discrimination and Vertical Relationship" (March 05, 2012). Available at SSRN: http://ssrn.com/abstract=1997070.

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ECO 2011 (Sections L07-10)
Basic Microeconomics

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Elasticity

Pindyck and Rubinfeld, 2013, p.33:

Elasticity is the percentage change that will occur in one variable [Y] resulting from a 1-percent increase in another [X] .

$$E = \frac{\%\Delta Y}{\%\Delta X} = \frac{\frac{\Delta Y}{Y}}{\frac{\Delta X}{X}} = \frac{X}{Y} \times \frac{1}{\frac{\Delta X}{\Delta Y}}$$

Measuring sensitivity

Pindyck and Rubinfeld, 2013, p.33:

Price elasticity of demand is the percentage change in quantity demanded (Q) of a good resulting from a 1-percent increase in its price (P).

$$E_p = \frac{\%\Delta Q}{\%\Delta P} = \frac{\frac{\Delta Q}{Q}}{\frac{\Delta P}{P}} = \frac{P}{Q} \times \frac{1}{\frac{\Delta P}{\Delta Q}}$$

Example #1:

$$E_p = \frac{\text{\% change in quantity demanded}}{\text{\% change in price}}$$

Suppose that the price of banana increases by 1% and the quantity demanded falls by 3.5%

$$E_p = \frac{-3.5\ \%}{1\ \%} = -3.5$$

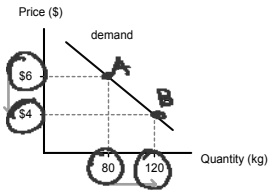
Example #1:

$$E_p = \frac{\%\text{ change in quantity demanded}}{\%\text{ change in price}}$$

Suppose that the price of beer increases by 10% and the quantity demanded falls by 20%

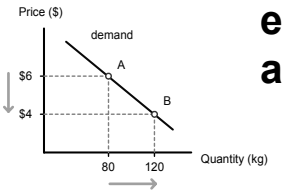
$$E_p = \frac{-20\,\%}{10\,\%} = -2$$

Example #3:



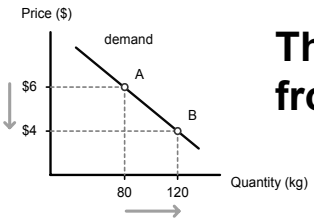
$$E_p = \frac{\%\,\Delta\, Q}{\%\,\Delta\, P} = \frac{\frac{120kg - 80kg}{80kg}}{\frac{\$4 - \$6}{\$6}} = \frac{0.5}{-0.33} = -1.5$$

Example #5:



Price elasticity over a portion

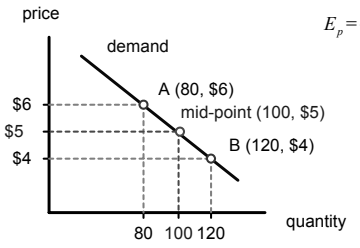
$$E_p = \frac{\%\,\Delta\, Q}{\%\,\Delta\, P} = \frac{\frac{120kg - 80kg}{80kg}}{\frac{\$4 - \$6}{\$6}} = \frac{0.5}{-0.33} = -1.5$$



The change is from A to B

$$E_p = \frac{\%\,\Delta\, Q}{\%\,\Delta\, P} = \frac{\dfrac{120kg - 80kg}{80kg}}{\dfrac{\$4 - \$6}{\$6}} = \frac{0.5}{-0.33} = -1.5$$

Mid-point method



$$E_p = \frac{\dfrac{Q^B - Q^A}{\left(\dfrac{Q^B + Q^A}{2}\right)}}{\dfrac{P^B - P^A}{\left(\dfrac{P^B + P^A}{2}\right)}} = \frac{\dfrac{Q^B - Q^A}{\bar{Q}}}{\dfrac{P^B - P^A}{\bar{P}}}$$