

QUIZ 2 ELASTICITY

ECON 101
PROFESSOR GUSE

Define Elasticity.

ANSWER. From Parkin: “The **price elasticity of demand** is a unit-free measure of the responsiveness of the quantity demanded of a good to a change in its price when all other influences on buyers’ plans remain the same.” It is roughly calculated as the percentage change in quantity demanded divided by the percentage change in price. If you have two quantity-price observations along a demand curve, (Q_0, P_0) and (Q_1, P_1) , a good approximation of the elasticity at a point along the demand curve between these two points is

$$\mathcal{E}_{Q_D, P} = \frac{(Q_1 - Q_0)(P_0 + P_1)}{(Q_0 + Q_1)(P_1 - P_0)}$$

This formula uses the average quantity and average price as the bases in the calculations of the percent quantity change and percent price change respectively. (Show this as an exercise!)

If you know the inverse slope of the demand curve, $\frac{\Delta Q}{\Delta P}$, at the point, (Q, P) , where you want to measure elasticity, then you can express the elasticity at that point precisely as

$$\mathcal{E}_{Q_D, P} = \frac{(\Delta Q)(P)}{(\Delta P)(Q)}$$