ELASTICITIES

Jacob: How do we compare elasticities if it is not constant over the whole demand curve?

~ For a logarithmic demand curve $ln(Q) = \alpha - \beta\, ln(P)$ the price elasticity of demand is constant.
~ For a linear demand curve, the price elasticity of demand depends on the point.

The regression analysis on-line course discusses the mathematics of elasticities. In that course, we learn to convert logarithmic curves to linear curves. For the microeconomics on-line course, we learn the formula for the price elasticity of demand:

$$\eta = \frac{\partial Y / Y}{\partial X / X} = \frac{\partial Y}{\partial X} \times \frac{X}{Y} = \beta X / Y$$

X is price (P) and Y is quantity (Q). For a linear demand curve, β is constant, but X / Y varies.

~ For a very low price, where $P \approx 0$, the price elasticity of demand is low. The quantity demanded is near its maximum. Cutting the price in half or doubling the price has a small effect on the quantity demanded.
~ For a very high price, where $Q \approx 0$, the price elasticity of demand is high. The price is near its maximum. To double the quantity (a small additive increase), only a small price reduction is needed.

We can't speak about the price elasticity of demand for a entire curve. How do we compare two groups of consumers?

Rachel: We compare the elasticities at a *given price*. We ask: "For a price P_0, which consumers have the higher price elasticity of demand?"