

## Elasticity of Demand and Supply<sup>1</sup> Instructional Primer<sup>2</sup>

*This primer has yet to be fleshed out but offers a very basic recap of some of the most basic rules and definitions of Elasticity.*

### Elasticity Recap

Elasticity: the effect of the change in one variable in respect to another variable

$$\eta = \frac{\% \Delta X}{\% \Delta Y} = |-1| \longrightarrow \text{Unitary Elastic: small change has no effect on Total Revenue}$$
$$> |-1| \longrightarrow \text{Elastic: change in price yields negatively correlated change in Total Revenue}$$
$$< |-1| \longrightarrow \text{Inelastic: change in price yields positively correlated change in Total Revenue}$$

$$\text{Simple Formula: } \frac{Q_2 - Q_1}{\frac{P_2 - P_1}{P_1}} \quad \text{Mid-Point Formula: } \frac{Q_2 - Q_1}{\frac{(Q_2 + Q_1)/2}{\frac{P_2 - P_1}{(P_2 + P_1)/2}}}$$

$$\text{Own Price: } \frac{\% \Delta Q_1}{\% \Delta P_1} \quad \text{Cross Price: } \frac{\% \Delta Q_1}{\% \Delta P_2}$$

Demand Elasticity (-) = downward sloping demand curves

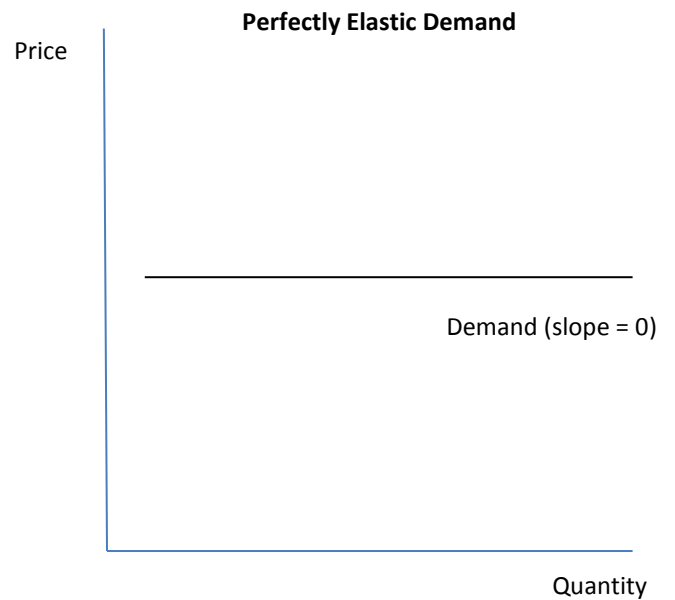
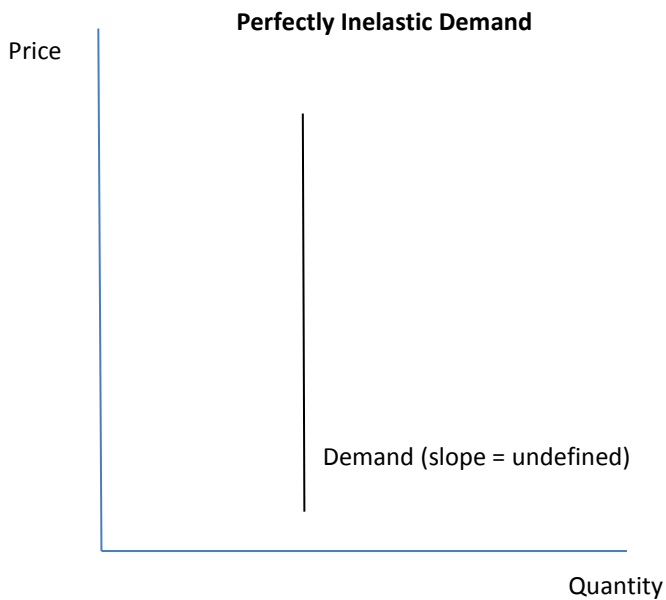
Supply Elasticity (+) = upward sloping supply curves

$$\text{Substitutes } \frac{\% \Delta Q_1}{\% \Delta P_2} = \frac{+}{+} \geq 0 \quad \text{Complements } \frac{\% \Delta Q_1}{\% \Delta P_2} = \frac{+}{-} \leq 0 \text{ (in most cases, but not always)}$$

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<sup>1</sup> This primer is intended to present an abbreviated discussion of the included economic concepts and is not intended to be a full or complete representation of them or the underlying economic foundations from which they are built.

<sup>2</sup> This primer was developed by Rick Haskell (rick.haskell@utah.edu), Ph.D. Student, Department of Economics, College of Social and Behavioral Sciences, The University of Utah, Salt Lake City, Utah (2013).



Think about the interpretation of the above graphs:

- Perfect inelasticity suggests that regardless of the price, consumers will demand the same quantity of the good. This might be an illustration of the demand for a life-saving good such as insulin.
- Perfect elasticity suggests that the demand for a particular good is extraordinarily sensitive to price, such as a highly discretionary good or a good for which there are available perfect substitutes.