

Chapter 18 – Elasticity

1. **Price Elasticity of demand** – a unit free measure of the responsiveness of the quantity demanded of a good to change in its price when all other influences on buyers' plans remain the same
2. **Price Elasticity of Demand** = % change in quantity demanded / % change in price. This value is always negative, so take the absolute value
 - a. **NOTE: THESE ARE NOT THE NORMAL MATHEMATICAL % CHANGES**
3. **% change in quantity demanded** – Change in quantity demanded / Average of the old/new values
4. **% change in Price** – change in price / average of the old/new values
5. **Perfectly inelastic demand** – very low price elasticity of demand
6. **Unit elastic Demand** – % quantity demanded equals % change in price, elasticity of 1
7. **Perfectly elastic demand** – greater than 1 elasticity of demand
8. **Straight line demand curve** – elasticity varies. Take the elasticity between two points, and the answer is the elasticity for the average of the two prices
9. **Total Revenue** – price of the good multiplied by the quantity sold. Total revenue is at a max when a good is unit elastic
10. If demand is elastic, a 1% price cut increase the quantity sold by more than 1% and total revenue increases
11. If demand is unit elastic, 1% price cut decreases quantity sold by 1%, revenue doesn't change
12. If demand is inelastic, 1% price cut increases the quantity sold by less than 1% and total revenue decreases
13. When a price changes, the change in your expenditure depends on YOUR elasticity of demand
 - a. Elastic - a 1% price cut, you buy more than 1% of the item, total spent increases
 - b. Unit elastic – 1% price cut, you buy 1% more, total spent remains the same
 - c. Unit inelastic – 1% price cut, you buy less than 1% more, total spent decreases
14. **Elasticity depends on:**
 - a. **Closeness of substitutes** – the closer the substitutes for a good, the more elastic is the demand for it. Luxuries generally have many substitutes, one of which is not buying it, so luxuries are generally elastic
 - b. **Proportion of income spent on the good** – greater the proportion of income spent on a good, the more elastic is the demand for it
 - c. **Time Elapsed since a price change** – longer the time that has elapsed since a price change, the more elastic is demand. When the prices of oil fell big, people didn't change their ways, but did gradually. Known also as sticky prices
15. **Cross elasticity of demand** - % change in quantity demanded / % change in price of a substitute or complement
 - a. Positive for a substitute and negative for a complement
16. **Income elasticity of demand** – % change in quantity demanded / % change in income
 - a. Positive, > 1 – normal good, income elastic
 - b. Positive, < 1, normal good, income inelastic
 - c. Negative – inferior good
17. **Elasticity of supply** - % change in quantity supplied / % change in price. Elasticity differs at each point, except when: Vertical line – elasticity of 0, line passing through the origin, elasticity of 1, horizontal line, elasticity is infinite
18. **Elasticity of supply depend on:**
 - a. **Resource substitution possibilities** – goods and services that can be produced only by using unique or rare productive resources are inelastic. Goods that can be produced easily are elastic
 - b. **Time Frame for Supply Decisions – momentary supply** shows the change of the quantity supplied immediately following a price change. Some goods, such as fruits and veggies, have a perfectly inelastic momentary supply, since these quantities on planting decisions made earlier. However, long distance phone calls have a perfectly elastic momentary supply curve, since you can make or not make a call
 - c. **Long run supply** – response of the supply curve after a long time, depending on what you're talking about
 - d. **Short run supply** – shows how the quantity supplied responds when given SOME, but not A LOT of time to adjust. Generally, first adjustment is the amount of labor employed, then purchasing more capital, etc
 - e. Short run supply curves slopes upward because producers can take actions quite quickly to change the quantity supplied in the response to a price change

TABLE 4.3 A Compact Glossary of Elasticities

Price Elasticities of Demand

A relationship is described as	When its magnitude is	Which means that
Perfectly elastic or infinitely elastic	Infinity	The smallest possible increase in price causes an infinitely large decrease in the quantity demanded*
Elastic	Less than infinity but greater than 1	The percentage decrease in the quantity demanded exceeds the percentage increase in price
Unit elastic	1	The percentage decrease in the quantity demanded equals the percentage increase in price
Inelastic	Greater than zero but less than 1	The percentage decrease in the quantity demanded is less than the percentage increase in price
Perfectly inelastic or completely inelastic	Zero	The quantity demanded is the same at all prices

Cross Elasticities of Demand

A relationship is described as	When its value is	Which means that
Perfect substitutes	Infinity	The smallest possible increase in the price of one good causes an infinitely large increase in the quantity demanded of the other good
Substitutes	Positive, less than infinity	If the price of one good increases, the quantity demanded of the other good also increases
Independent	Zero	If the price of one good increases, the quantity demanded of the other good remains the same
Complements	Less than zero	If the price of one good increases, the quantity demanded of the other good decreases

Income Elasticities of Demand

A relationship is described as	When its value is	Which means that
Income elastic (normal good)	Greater than 1	The percentage increase in the quantity demanded is greater than the percentage increase in income
Income inelastic (normal good)	Less than 1 but greater than zero	The percentage increase in the quantity demanded is less than the percentage increase in income
Negative income elastic (inferior good)	Less than zero	When income increases, quantity demanded decreases

Elasticities of Supply

A relationship is described as	When its magnitude is	Which means that
Perfectly elastic	Infinity	The smallest possible increase in price causes an infinitely large increase in the quantity supplied
Elastic	Less than infinity but greater than 1	The percentage increase in the quantity supplied exceeds the percentage increase in the price
Inelastic	Greater than zero but less than 1	The percentage increase in the quantity supplied is less than the percentage increase in the price
Perfectly inelastic	Zero	The quantity supplied is the same at all prices

*In each description, the directions of change may be reversed. For example, in this case, the smallest possible *decrease* in price causes an infinitely large *increase* in the quantity demanded.