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Lecture 2

Consumer Choice & Demand

Economics
& Society

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Previously in E&S

- ★ Course presentation
- ★ Definition of Economics
- ★ Micro vs. Macro
- ★ Opportunity Cost / Economic vs. Accounting Profit
- ★ Ceteris paribus / post hoc propter ergo hoc fallacy 
- ★ Representative agent 
- ★ Utility basics 
- ★ Graphs & Equations 

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Question:

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Consumer Choice & Demand



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ELASTICITY OF DEMAND

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The price elasticity of demand

> Elasticity

- * A demand curve **shows** how quantity demanded responds to changes in price along a **wide range** of prices
- * However, usually we **only need** information in the vicinity of the **current** price
- * A way to measure the response of quantity to price **at a specific price point** is the **elasticity of demand** (ε_d)
 ε_d **measures** the percentage change in quantity demanded of a good resulting from a percentage change in the good's price

$$\varepsilon_d = \frac{\% \Delta Q}{\% \Delta p} \quad \text{or} \quad \varepsilon_d = \frac{\Delta Q/Q}{\Delta p/p}$$

- * The price elasticity of demand will always be **negative**...

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Elasticity of demand – example

> Elasticity

$$\varepsilon_d = \frac{\% \Delta Q}{\% \Delta p} \text{ or } \varepsilon_d = \frac{\Delta Q/Q}{\Delta p/p}$$

* Assume that:

- ▶ Price **increases** from \$10 to \$12
- ▶ Quantity responds by **decreasing** from 50 to 45.

* Then,

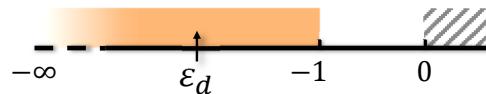
$$\frac{\Delta Q}{Q} = \frac{45 - 50}{50} = -0.1 \text{ and } \frac{\Delta p}{p} = \frac{\$12 - \$10}{\$10} = 0.2$$

* Thus,

$$\varepsilon_d = \frac{-0.1}{0.2} = -0.5$$

Elastic goods

> Elasticity



* If a good has $-\infty < \varepsilon_d < -1$,

- ▶ The $\% \Delta p$ causes a **larger** $\% \Delta Q$
- ▶ Consumers are

* **For example,** p increases from \$10 to \$11 $\Delta p/p = 0.1$
 Q decreases from 500 to 400 $\Delta Q/Q = -0.2$

$\varepsilon_d = -2$, which means that drop in quantity is **double** than the increase in price

* What **kind** of goods are elastic?

* What happens to the **revenue** of elastic goods?

- ▶ Revenue **before**: $\$10 \cdot 500 = \$5,000$
- ▶ Revenue **after**: $\$11 \cdot 400 =$

Inelastic goods

> Elasticity

* If a good has $-1 < \varepsilon_d < 0$,

- The $\% \Delta p$ causes a **smaller** $\% \Delta Q$
- Consumers



* **For example**, p increases from \$10 to \$11

$\varepsilon_d = -0.5$, which means that drop in quantity is **half** than the increase in price

* What **kind** of goods are inelastic?

* What happens to the **revenue** of inelastic goods?

- Revenue **before**: $\$10 \cdot 500 = \$5,000$
- Revenue **after**: $\$11 \cdot 475 =$

Demand elasticities estimates (at current price)

> Elasticity

Goods	Price Elasticity
Olive Oil	-1.92
Peanut Butter	-1.73
Ketchup	-1.36
Wine	-1.00
Laundry Detergent	-0.81
Shampoo	-0.79
Potato chips	-0.45
Cigarettes	-0.40

* We knew that **smoking** is addictive, and that **olive oil** is not essential

Elasticity for linear demand

* A **linear** demand will be of the form

$$p = a - b \cdot q$$

* For instance:

$$p = 20 - 2q$$

$$\text{or } p = 5 - q$$

$$\text{or } p = 10,000 - 0.43q$$

* Its elasticity of demand will **always** be given by

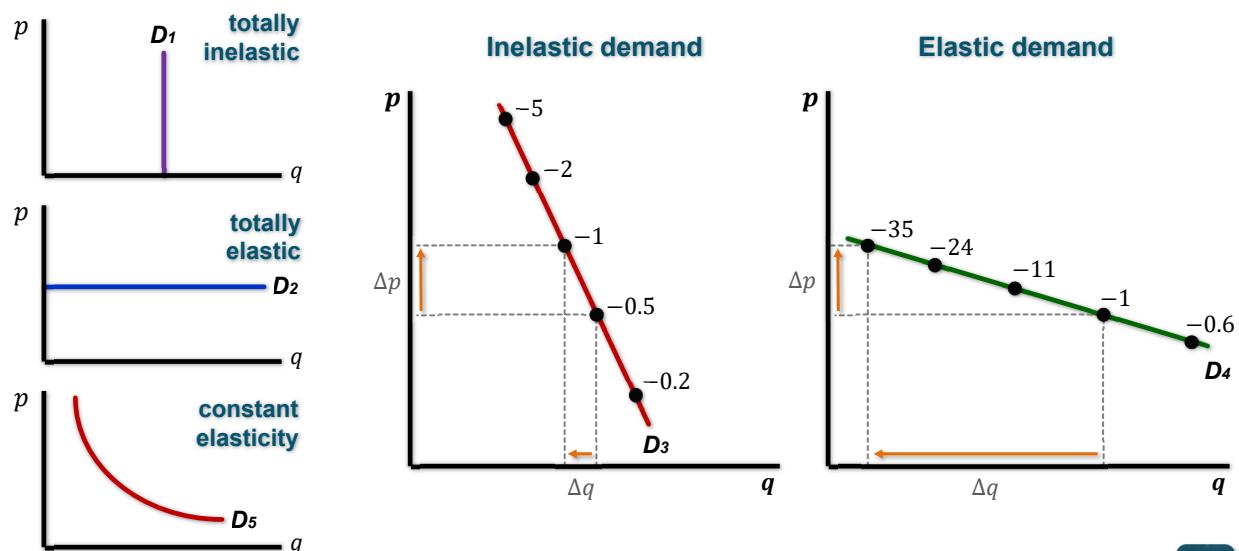
$$\varepsilon_D = 1 - \frac{a/b}{q}$$

* If, for instance, $p = 20 - 2q$, then $\varepsilon_D = 1 - \frac{10}{q}$

- ▶ Elasticity is **NOT constant** along a linear demand (**varies** with q)
- ▶ A product becomes **more inelastic** ($\varepsilon_D \rightarrow 0$) as its quantity (q) **increases**
- ▶ **What** happens to elasticity as $q > 10$?

Demand curves & elasticity !

> Elasticity



Determinants of elasticity of demand

> Elasticity

1. Strength of **need** and availability of **substitutes**:
 - ▶ Consumers are **less willing to tolerate** price increases for goods that can be **easily substituted** or just **avoided**
 - ▶ The **harder** the substitution, the **more inelastic** the product will be.
2. **Budget share** spent on the good:
 - ▶ When total expenditure for a good is a **small share** of the budget, consumers **care less** for its price
 - ▶ The **smaller** the share, the **more inelastic** the product will be.
3. **Time:** 
 - ▶ Products tend to become **more elastic over time** as consumers gradually discover **new substitutes** that cover the same need but cheaper

Uses outside Economics

> Elasticity

- ★ Elasticity of demand is a **useful** measurement of response
how consumer purchasing behavior responds to changes in price
 - brand desirability
 - resources required
- ★ Thus, elasticity **can reveal** information beyond the observable result:
 - ▶ **Brand** loyalty
 - ▶ Inter-personal **relationships**
 - ▶ **Election** results
 - ▶ Choosing a **future**



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Internal video

This video presents Cross-price elasticity and Income elasticity. Everything you need to know with theory and examples.



E&S Video 2 - Cross price & Income Elasticity
Kosmas Marinakis • 27 views • 1 week ago
Economics & Society Companion Video #2 Kosmas Marinakis, Ph.D. www.kmarinakis.org/es In this video, we will talk about Cross ...
Video #2
Cross-price Elasticity
Income Elasticity
Economics & Society 17:34

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Thank you!

(you are welcomed to stay for consultation or discussion)

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