OUTLINE — September 18, 2017

- Taxes, Burdens, and Deadweight Loss, continued
- Elasticity
  - Total Revenue Effect
  - Effect on Consumer Surplus
  - Effect on Burden of a Tax
- Accounting versus Economic Profit (maybe)

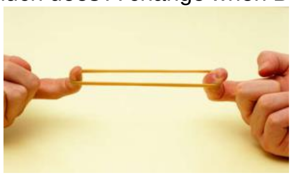
Midterm #1: Wed 9/27, 7 pm. Read the old midterms yet?

Extra handouts: in racks outside 532 Evans

Surplus Falls with Tax Increase

Elasticity

- Elasticity of A with respect to B
  - How much does A change when B changes?



- $\text{elasticity} = \dfrac{\text{percent change of A}}{\text{percent change of B}}$

Demand & Supply Elasticities

- How much does q_D change due to . . .
  - . . . a change in buyer income?
  - . . . a change in price?
  - . . . a change in other prices?
- How much does q_S change due to . . .
  - . . . a change in price?

Income Elasticity of Demand

- Remember:
  - Normal Goods
  - Inferior Goods
- Question:
  - By **how much** does q_D change when Y changes?
- Answer:
  - Income Elasticity of Demand

Examples: Income Elasticity

$\%\Delta$ Y = - 1 %

$\%\Delta q_D$ = - 5 %

$\%\Delta$ Y = +2 %

$\%\Delta q_D$ = -1 %

Terminology

- *Perfectly Inelastic*:
- *(Relatively) Inelastic*:
- *Unitarily Elastic*:
- *(Relatively) Elastic*:
- *Perfectly Elastic*:

Price Elasticity of Demand

- Remember:
  - Demand ALWAYS slopes down
- Question:
  - By **how much** does q_D change when p changes?
- Answer:
  - Price Elasticity of Demand

Examples: Price Elasticity of Demand

$\%\Delta p = -10\%$
$\%\Delta q_D = +5\%$

$\%\Delta p = +2\%$
$\%\Delta q_D = -4\%$

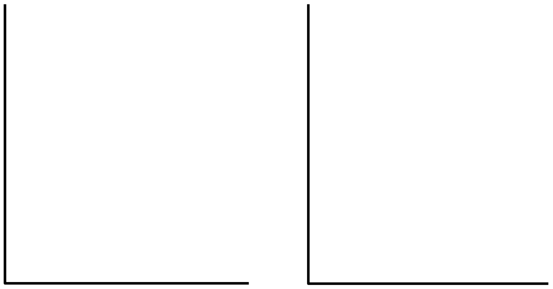
Determinants of Price Elasticity of Demand

- Availability of Substitutes
- Share of Total Spending
- Time Horizon

Total Revenue (TR) Effect

- What happens to total revenue when price rises?
  - TR (total revenue) = price * quantity
- *Price-Elastic Demand*
- *Price-Inelastic Demand*
- *Demand with Unitary Price Elasticity*

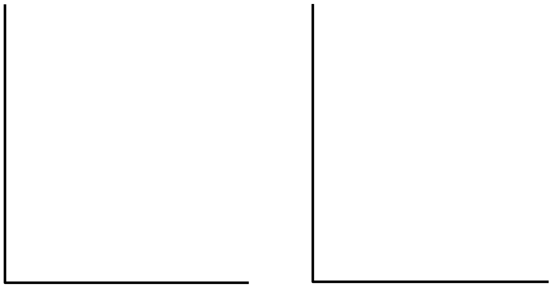
Price Elasticity and Slope



Price Elasticity & Consumer Surplus

- Price-Elastic demand
  - relatively little consumer surplus
- Price-Inelastic demand
  - relatively much consumer surplus

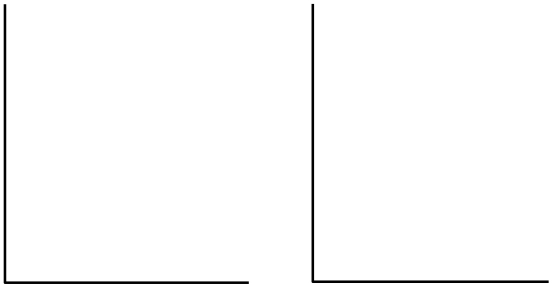
Surplus Depends on Slope



Revisit: Burden of a Tax

- Tax on an item increases its price
  - But (in the short run) not by the full amount of the tax
- Who “bears the (greater) burden” of the tax?
  - Definition: Burden = % of tax paid
- Burden depends upon slopes of S and D
  - That is, upon price-elasticity of supply and price-elasticity of demand

Burden & quantity effect Depend on Price-Elasticity



Firms' Supply Decisions

- Question
  - Why does supply slope up?
- Assume
  - Goal of firms is to maximize profit

Economic Profit

- Profit = Total Revenue — Total Costs

Total Revenue (TR) = Price * Quantity

Total Costs (TC) include both
1) Out-of-pocket (explicit, accounting) costs
2) Opportunity (implicit) costs

Opportunity Cost of Capital

- Capital (machinery) costs you $10,000
- What if your $10,000 could earn 5 percent elsewhere
  - "Normal rate of return" = rate financial assets are earning
  - In this case, "normal rate of return" = 5 percent per year
- Here, Implicit cost of capital = 5% of $10,000

Opportunity Cost of Labor

- You could earn $40,000 per year working elsewhere
  - Opportunity cost of your labor = $40,000 per year