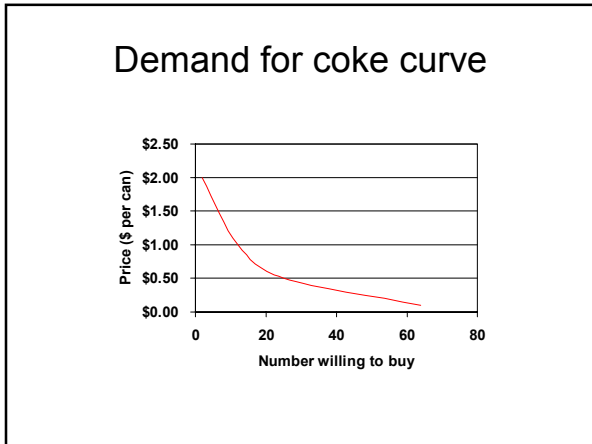


**Chapter 7: Efficiency and Exchange**

A. Producer surplus  
B. Consumer surplus



Price	Number willing to buy
10 cents	64
50 cents	25
\$1.00	12
\$2.00	2

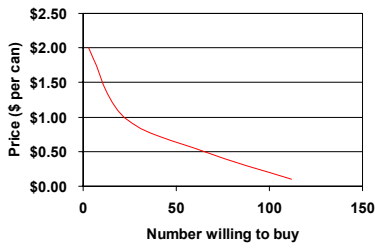


**Demand curve:**  
to sell a certain number of units (represented by a distance on horizontal axis)  
we would have to charge a sufficiently low price (represented by a distance on vertical axis)

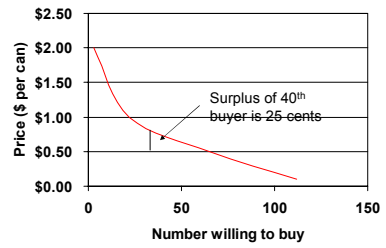
Height = value of the product to that potential buyer

If you would be willing to pay 75 cents and we sell it to you for 50 cents, then your surplus as a consumer is 25 cents

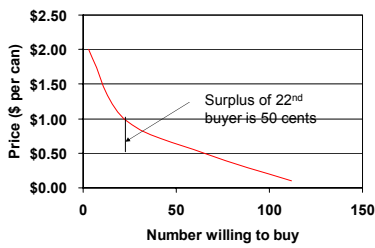
Demand for coke curve



Demand for coke curve



Demand for coke curve

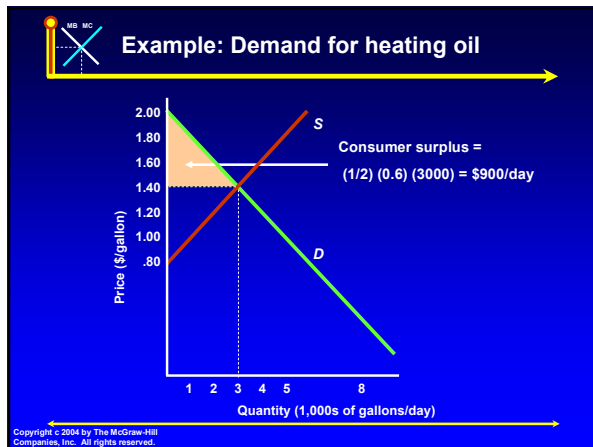


If 65 people each pay 50 cents, total consumer surplus is area below demand curve and above the price

## Consumer surplus



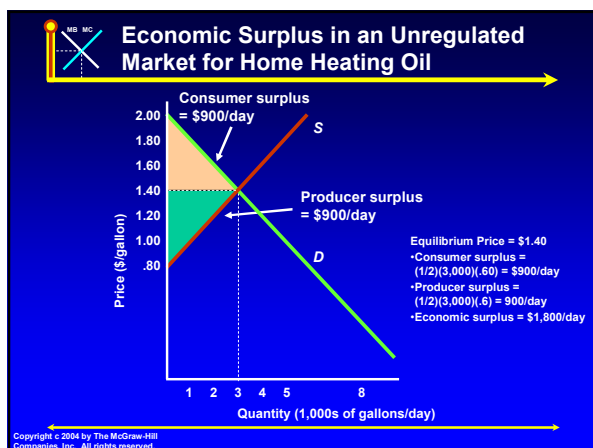
If this region is a triangle, can find its area from  $\text{Area} = (1/2) \text{ base} \times \text{height}$



## Chapter 7: Efficiency and Exchange

- A. Producer surplus
- B. Consumer surplus
- C. Total economic surplus

Total economic surplus in a given market is the total surpluses of all participants in the market  
 If only participants are buyers and sellers, then total economic surplus is the sum of producer surplus plus consumer surplus

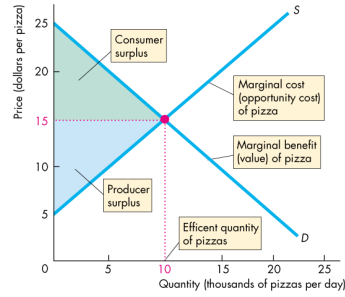
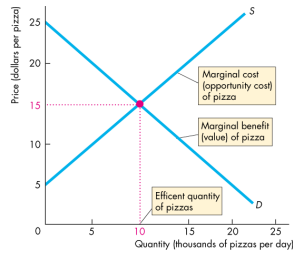


## Chapter 7: Efficiency and Exchange

- A. Producer surplus
- B. Consumer surplus
- C. Total economic surplus
- D. Efficiency and equilibrium

The competitive outcome is efficient

Efficient outcome is point where supply intersects demand



The competitive outcome is efficient

Underproduction

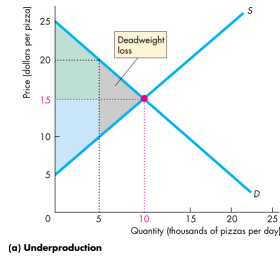
The efficient quantity is 10,000 pizzas a day.

If production is restricted to 5,000 pizzas a day, there is underproduction and the quantity is inefficient.

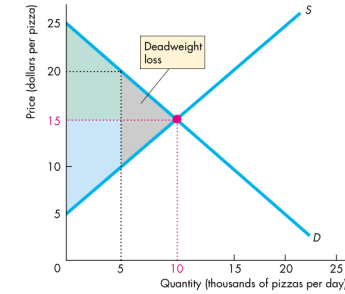
A **deadweight loss** equals the decrease in total surplus—the gray triangle.

This loss is a *social* loss.

$loss = (1/2)(5)(10) = \$25,000/day$



(a) Underproduction



(a) Underproduction

The competitive outcome is efficient

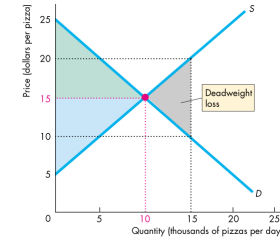
Overproduction

Again, the efficient quantity is 10,000 pizzas a day.

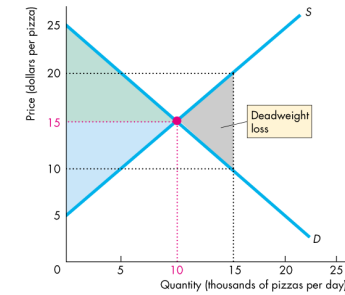
If production is expanded to 15,000 pizzas a day, a deadweight loss arises from overproduction.

This loss is a *social* loss.

$loss = (1/2)(5)(10) = \$25,000/day$



(b) Overproduction



(b) Overproduction



Adam Smith (1776):

An individual producer “neither intends to promote the public interest, nor knows how much he is promoting it ... [but is] led by an invisible hand to promote an end which was no part of his intention.”

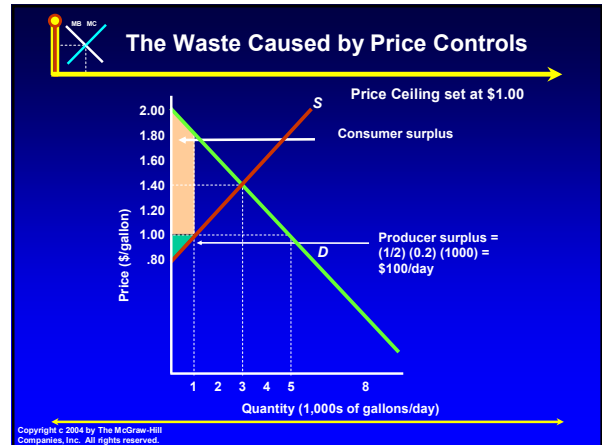
Why “invisible hand” works under perfect competition:

Marginal cost to firm from producing one more unit = resources that must be surrendered to produce the good

Marginal benefit to customer from producing one more unit is the price they’re willing to pay

### Chapter 7: Efficiency and Exchange

- A. Producer surplus
- B. Consumer surplus
- C. Total economic surplus
- D. Efficiency and equilibrium
- E. Applications
  - 1. Price ceilings



Area of trapezoid =  $(1/2) \times (\text{base}_1 + \text{base}_2) \times (\text{height})$

