

ECON 4100: *Industrial Organization*

Lecture 2- *Efficiency*

Overview

- Efficiency and markets
- Pareto Efficiency
- Consumer Surplus and Producer Surplus revisited
- A non-surplus approach to efficiency

Efficiency and Surplus

- Can we reallocate resources to make some individuals better off without making others worse off?
- We need a measure of well-being
 - *consumer surplus*: difference between the maximum amount a consumer is willing to pay for a unit of a good and the amount actually paid for that unit
 - aggregate consumer surplus is the sum over all units consumed and all consumers
 - *producer surplus*: difference between the amount a producer receives from the sale of a unit and the amount that unit costs to produce
 - aggregate producer surplus is the sum over all units produced and all producers
 - *total surplus* = consumer surplus + producer surplus

Efficiency and surplus: illustration

The demand curve measures the willingness to pay for each unit
Consumer surplus is the area between the demand curve and the equilibrium price

The supply curve measures the marginal cost of each unit
Producer surplus is the area between the supply curve and the equilibrium price

Aggregate surplus is the sum of consumer surplus and producer surplus
The competitive equilibrium is efficient

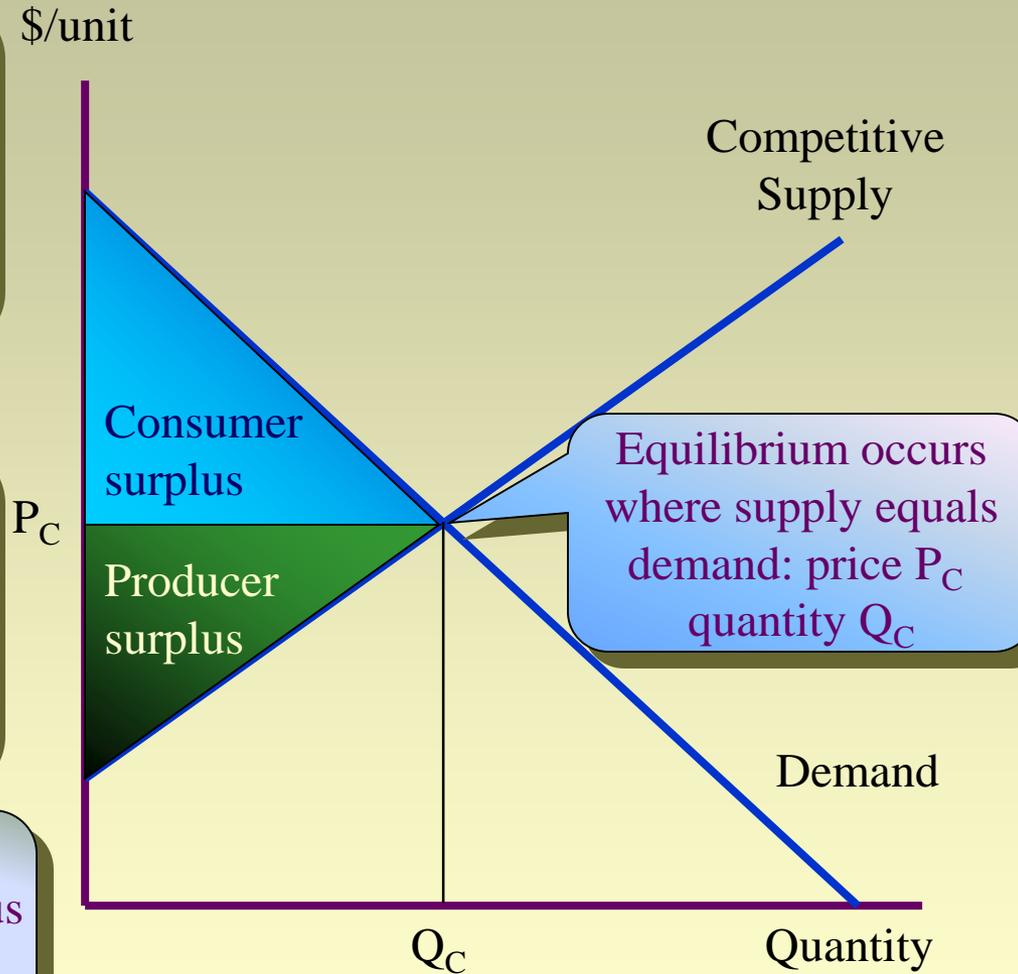
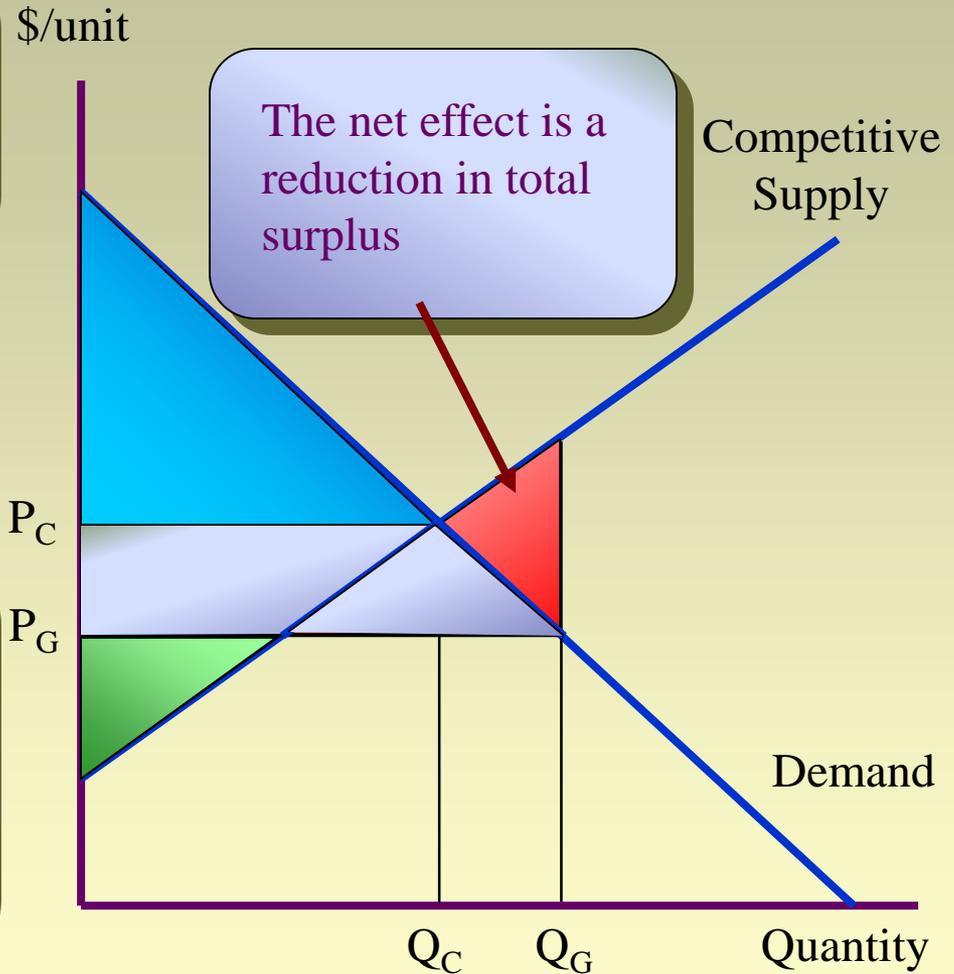


Illustration (cont.)

Assume that a greater quantity Q_G is traded
Price falls to P_G

Producer surplus is now a positive part
and a negative part

Consumer surplus increases
Part of this is a transfer from
producers
Part offsets the negative producer
surplus

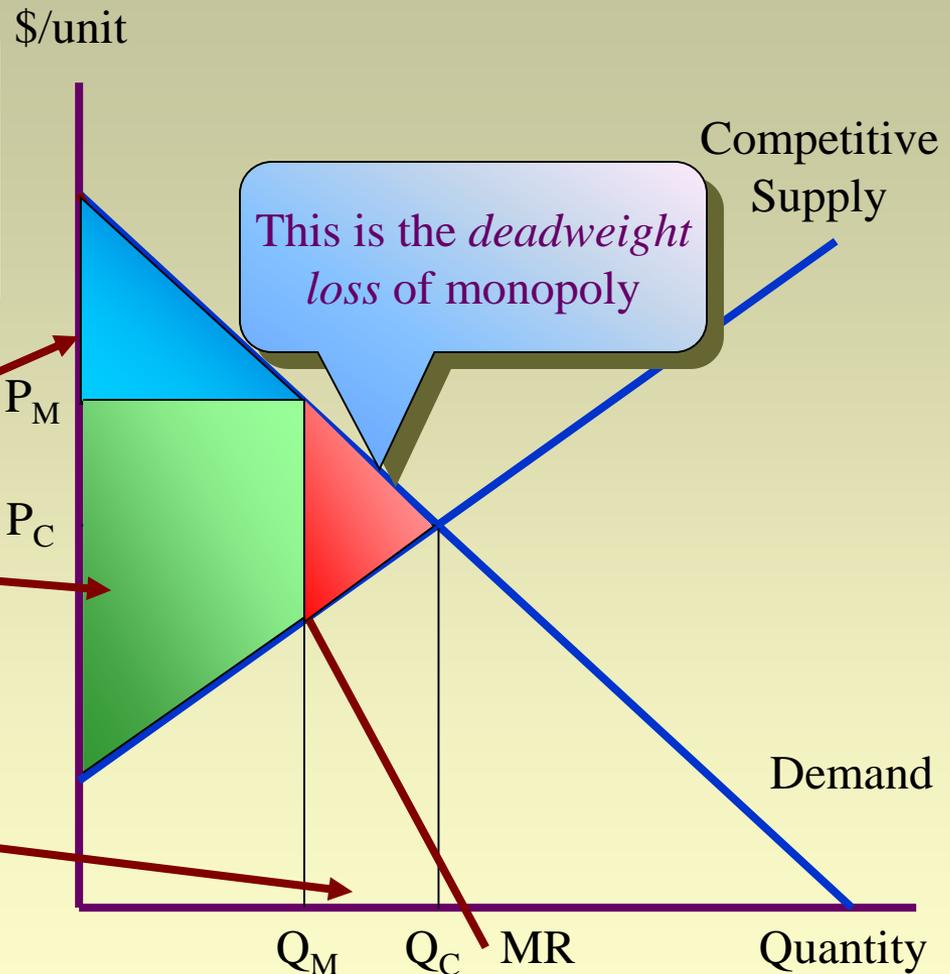


Deadweight loss of Monopoly

Assume that the industry is monopolized
The monopolist sets $MR = MC$ to give output Q_M
The market clearing price is P_M

Consumer surplus is given by this area
And producer surplus is given by this area

The monopolist produces less surplus than the competitive industry. There are mutually beneficial trades that do not take place: between Q_M and Q_C



Deadweight loss of Monopoly (cont.)

- Why can the monopolist not appropriate the deadweight loss?
 - Increasing output requires a reduction in price
 - *this assumes that the same price is charged to everyone.*
- The monopolist creates surplus
 - some goes to consumers
 - some appears as profit
- The monopolist bases her decisions purely on the surplus she gets, *not* on consumer surplus
- The monopolist undersupplies relative to the competitive outcome (it is like an *externality* or a *public good* kind of problem)
- The primary problem: *the monopolist is large relative to the market*

A Non-Surplus Approach

- Take a simple example
- Monopolist owns two units of a valuable good
- There are 50,000 potential buyers
- Reservation prices:

Number of Buyers	Reservation Price
First 200	\$50,000
Next 40,000	\$30,000
Last 9,800	\$10,000

Both units will be sold at \$50,000; no deadweight loss

Why not? Monopolist is *small* relative to the market.

Example (cont.)

- Monopolist has 200 units
- Reservation prices:

Number of Buyers	Reservation Price
First 100	\$50,000
Next 40,000	\$15,000
Last 9,900	\$10,000

Now there is a loss of efficiency and so deadweight loss no matter what the monopolist does.

Moreover:

- Additionally, there may be a lot of rent-seeking, so more resources are wasted!!!
- And x-inefficiency because the monopolist becomes a *lazy monopolist*

However:

- However, the prospects of reaping monopoly profits may encourage firms to be more creative and innovative and develop better products
- In a dynamic view of the economy, a monopoly might not be that bad
- This is the idea defended by Peter Schumpeter (and Bill Gates of course 😊)
- And it is the rationale behind patent policies

Next

- Market structure and market power
- Read Ch. 3 and revisit Ch. 1