

## Intro

Change in allocative efficiency:

$$\Delta SS = \Delta SS_o + \Delta SS_I + \Delta SS_s$$

$\downarrow$        $\downarrow$        $\downarrow$   
 output   input   secondary markets

## 5.1 Shadow Pricing

When no market price exists or it is obscured, shadow pricing exists

## 5.2 Valuing impacts in efficient markets

5.2.1 Direct increase in supply available to consumers

5.2.2 Direct reduction in costs to producers

## 5.3 Valuing impacts in distorted markets

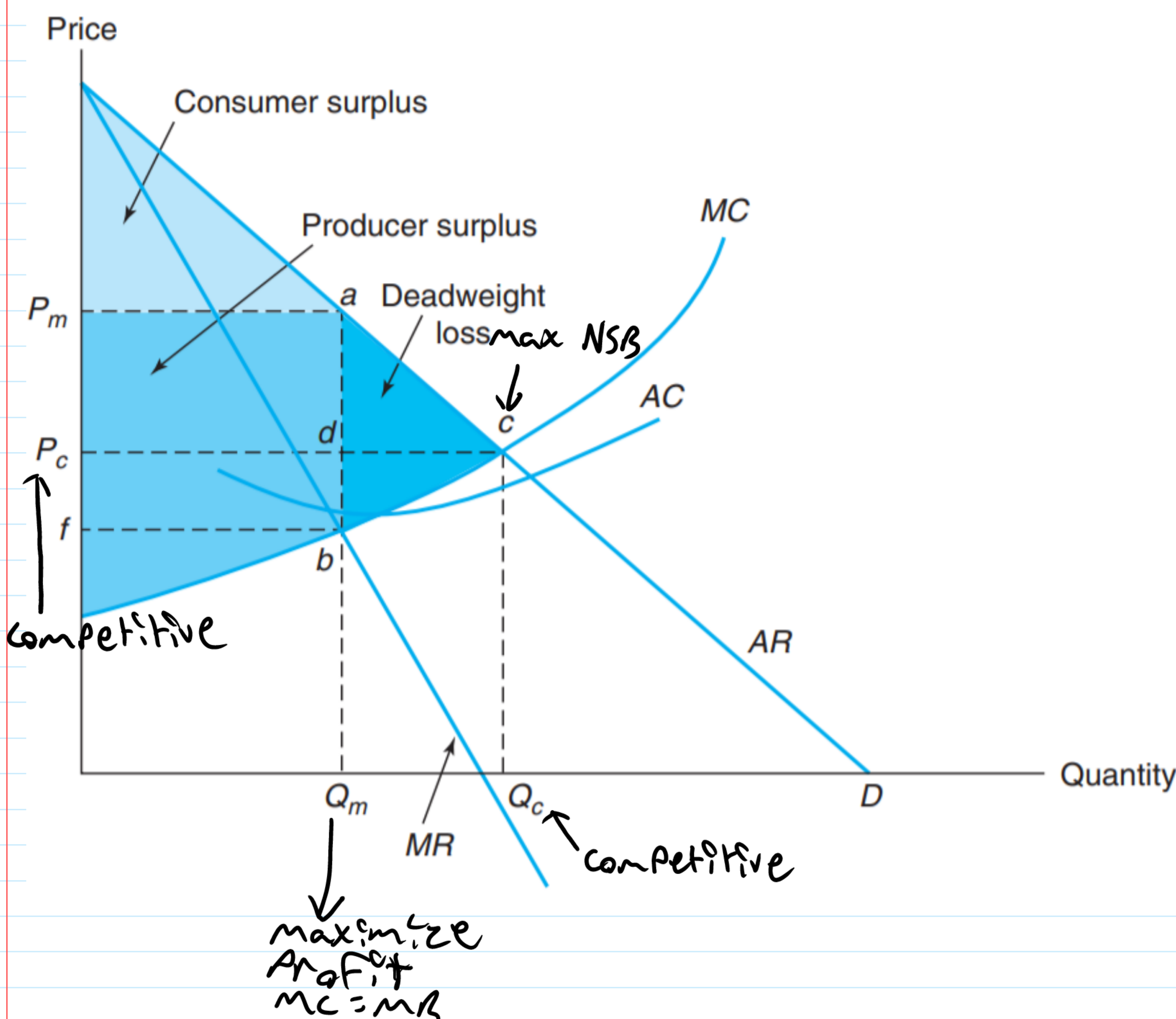
If output market becomes distorted, hard to determine correct surplus changes

Five types of failures:

- monopoly
- information asymmetry
- externalities
- public goods
- addictive goods

### 5.3.1 Monopoly

results in DWL and reduces SS  
Marginal Revenue (MR) is below demand (AR)



$$SS = CS + PS$$

Monopolist maximizes profits

### 5.3.2 Natural monopoly

Natural monopoly enjoys economies of scale over a wide range of outputs

Large fixed costs relative to variable costs

$MC < AC$  over range

### 5.3.3 Information asymmetry

Government can intervene + provide missing info

- 1) Search goods: Products with researchable characteristics
- 2) Experience goods: consumers can only gain full knowledge after purchasing
- 3) Post-experience goods: consumption does not necessarily reveal information

### 5.3.4 Externalities

- an effect that production or consumption has on third parties
- product for which there is no market
- problem of "missing markets"
- negative imposes social costs
- positive produces benefits
- to reduce DWL from negative externalities, increase taxes

### 5.3.5 Public goods

- non-excludable goods  $\rightarrow$  everyone has access
- pure public goods are nonexcludable + non-rivalrous
- non-excludable = jointness in supply
- can cause free-rider problem
- non-rivalry  $\rightarrow$  one's use does not exclude another's
- non-rivalry causes market failure
- toll goods are non-rivalrous + excludable
- open-access resources are non-excludable + rivalrous

### 5.3.6 Addictive goods

- rational addiction: When consumers take consequences into account
- negative intrapersonal externalities: harm imposed on future self by current self