

Mon 4-4:50	PETER 103	Vinayak Alladi
Mon 10-10:50	WLH 2204	Matthew Louie
Wed 3-3:50	CENTR 222	Roy Allen
Wed 5-5:50	PETER 103	Martha Gimbel
Fri 4-4:50	PETER 103	Soojin Jo
Fri 5-5:50	PETER 103	Ayal Chen-Zion

- (1) Discussion sections do not meet today.  
(2) Exams returned in discussion section beginning Friday.  
(3) Check course web page on Saturday for information about grading scale <http://dss.ucsd.edu/~jhamilto/Econ2.html>

## Chapter 11: Externalities and Property Rights

### A. External costs

#### Definitions

- The *private costs* of an activity are the costs that you personally pay for
- The *external costs* of an activity are negative consequences of that activity for others that you don't personally pay for
- By *negative consequence* we refer to something they would be willing to pay to prevent if they could

Example: driving your car

Private costs:

- gasoline
- wear on car



External costs:

- traffic congestion
- pollution



But why is air pollution an "external" cost?  
What if I care about pollution myself?

- Driving 1 more mile adds 0.1 grams of hydrocarbons to the air
- 0.1 grams has a miniscule effect on the air of San Diego



- My willingness to pay to have 0.1 fewer grams HC in the air is maybe one-millionth of a cent
- So my personal "pollution cost" is one-millionth of a cent



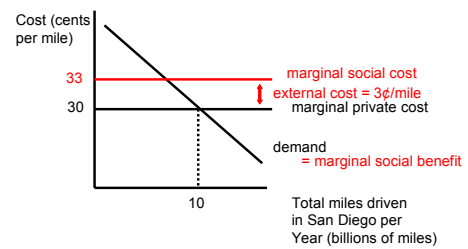
- But, if there are 3 million people in San Diego, the external "pollution cost" of driving my car one more mile would be 3 cents



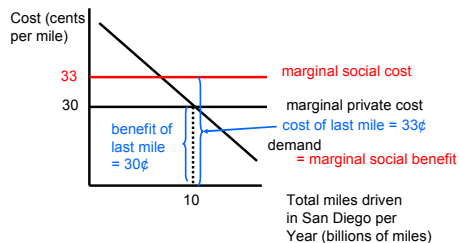
Conclusion: even if you care about pollution, the cost you impose on yourself from causing more pollution is tiny compared to the cost you impose on everybody else put together

Issue with external costs: if a person just looks at their private costs in deciding whether an activity is worthwhile, they will not make the decision that is in society's best interest

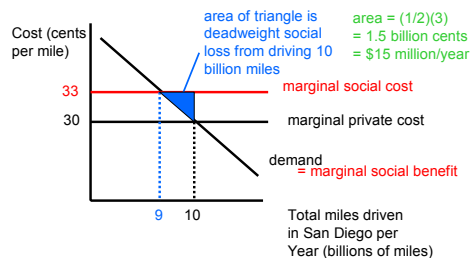
### Marginal costs and benefits of driving a car in San Diego



### 10 billion vehicle-miles per year in San Diego is socially inefficient



### 9 billion vehicle-miles per year in San Diego is socially efficient



#### Summary of economics of external costs:

- What people take into account in making their decisions is marginal private cost
- Marginal social cost = marginal private cost plus marginal external cost
- What people should take into account in making their decisions is marginal social cost

- When social MC > private MC, too much of the activity is undertaken and result is socially inefficient

## Chapter 11: Externalities and Property Rights

- External costs
- External benefits

#### Definitions

- The *private benefits* of an activity are the benefits that you personally receive
- The *external benefits* of an activity are positive consequences of that activity for others that you don't personally get compensated for
- By *positive consequences* we refer to something they would be willing to pay to receive if they needed to

Example: beekeeping

Private benefits:

- sell honey

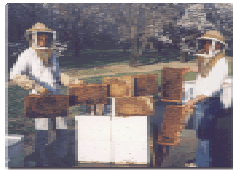


External benefits:

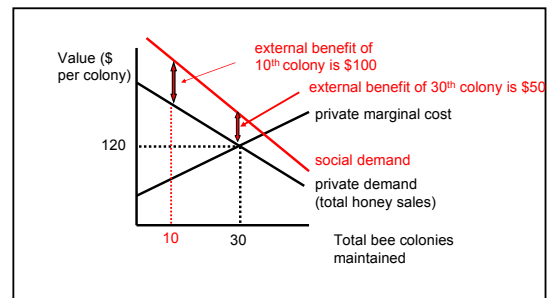
- many commercial crops (such as apples, oranges, alfalfa, almonds ...) have higher yields when more bees are around



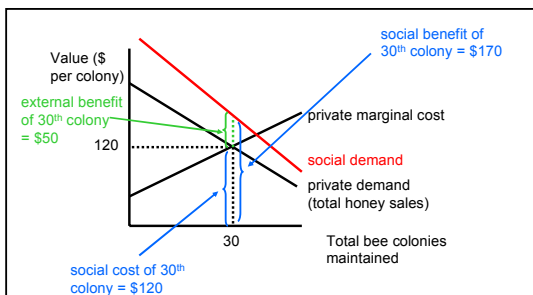
- One colony (30,000 bees) might produce 80 pounds of honey, sell wholesale for \$1.50/pound = \$120/colony
- One colony could increase yield of apple orchard by up to several hundred dollars



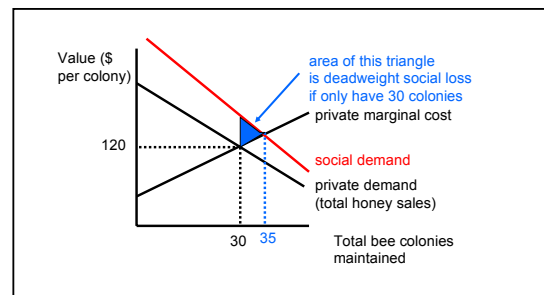
### Marginal costs and benefits for the beekeeper



If beekeepers were not compensated for pollination services, the private outcome would be inefficient



It would be socially efficient if the beekeeper maintained 35 colonies



Summary of economics of external benefits:

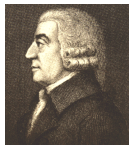
- What suppliers take into account in making their decisions is private demand
- Social demand = private demand plus external marginal benefits
- What suppliers should take into account in making their decisions is social demand

- When social demand > private demand, too little of the activity is undertaken and result is socially inefficient

A socially efficient allocation calls for setting marginal social benefit = marginal social cost

- If social MB > social MC, should have more of activity
- If social MB < social MC, should have less of activity

- With perfect competition and no externalities, social MC = private MC and social MB = private MB
- This is why perfect competition with no externalities results in socially efficient allocation (= Adam Smith's "invisible hand")



When there are external costs or benefits, maximization of private profit is not in the public's interest, and Adam Smith's "invisible hand" does not work correctly