

## Externalities and Property Rights

News Item

There are no recitations this week.

Market Power and Banana Slug T-Shirts

Externalities interfere with the efficient allocation of resources.

Externalities persist in situations where property rights are either poorly defined or have not been secured.

What Have We Learned?

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## News

The New York Times  
nytimes.com

PHOTO: PHILIPPO PIRELLA  
STYLING BY LEE OUBREI

June 20, 2008

### The Trouble With Markets for Carbon

By JAMES KANTER

Correction Appended

BRUSSELS — As the United States moves toward taking action on global warming, practical experience with carbon markets in the European Union raises a critical question: Will such systems ever work?

Backers of these markets, which involve setting limits on greenhouse gases and then allowing companies to buy and sell emission permits, see the approach as one of the cheapest and most effective ways to control the gases in advanced economies. The presidential candidates Barack Obama and John McCain have both endorsed the idea.

Yet in Europe, which created the world's largest greenhouse gas market three years ago, early evidence suggests the whole approach could fail. Carbon dioxide emissions are still rising in many industries, not falling.

## Market power

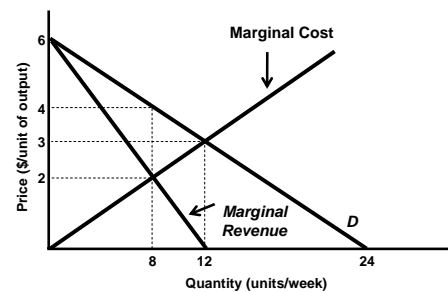
A firm has market power if it can raise the price of its good and not lose all its sales.

The source of market power is the absence of good substitutes for the good in question.

Firms with market power face downward sloping demand schedules for their good.

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A Firm with Market Power Produces a Quantity such that Marginal Revenue equals Marginal Cost

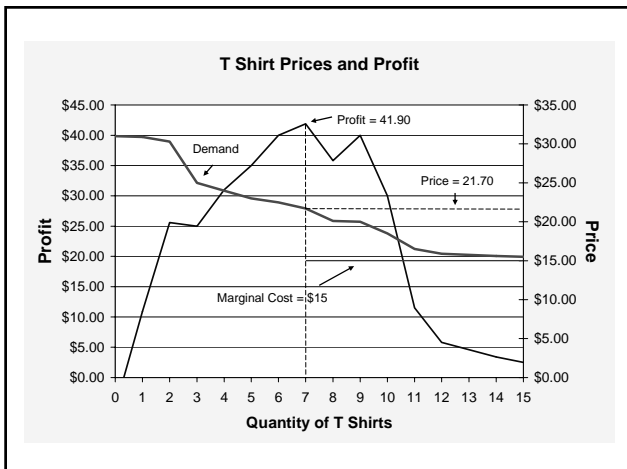
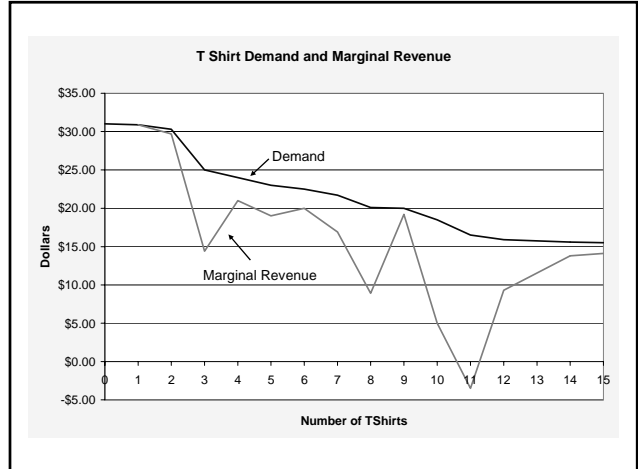


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## Market Power and Banana Slug T-Shirts

Earlier, Salemi auctioned a UCSC T-Shirt. The bids Salemi collected provide him with information about class demand. Suppose Salemi can buy the T-Shirts in bulk for \$15 per shirt plus \$5 for shipping. How should Salemi price the shirts if he wishes to maximize profit?

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## Market Power and Banana Slug T-Shirts

Salemi earns the highest profit if he:  
 Sets the Price of a T-Shirt at \$21.70.  
 Sells 7 T-Shirts.

He will earn \$41.90 in profit.

Use Your Clickers To Answer  
The Following  
Graded Question.

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Which of the following correctly explains the effect of imperfect competition on economic efficiency?

Imperfect Competition...

- A. Enhances efficiency by providing consumers with specific brands.
- B. Reduces efficiency because firms set prices too low.
- C. Reduces efficiency because firms set prices above the marginal cost of production.
- D. Enhances efficiency by providing firms with an incentive to increase production.

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## Externalities and Property Rights

Professor Salemi proposes to exercise his rights as a tenured professor by smoking a cigar in class, right now.

What is the most you would be willing to pay him to not smoke in class?

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## What are externalities?

Externalities are costs and benefits that are experienced by people other than the producers and consumers of goods.

Externalities “spill over” onto third parties.

Externalities are generally negative... but sometimes positive.

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Externalities are typically negative.



But Externalities can be positive.



Externalities interfere with the efficient allocation of resources.

For most goods, the total social cost of production and consumption equal the market price of the good.

Consumers only buy goods for which they are willing to pay the total cost.

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## Externalities interfere with the efficient allocation of resources.

If production or consumption of a good entails external effects,  
The social costs and benefits of production and consumption  
Are not wholly reflected in the good's price.

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## Externalities interfere with the efficient allocation of resources.

The private cost of smoking a cigar includes the price of the cigar plus the smoker's estimate of the impact on his own health.  
The social cost of smoking a cigar includes the costs of "second hand smoke."  
We can estimate those costs by asking what you would pay to bribe me not to smoke.

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## Externalities interfere with the efficient allocation of resources.

When negative externalities are associated with a good, too much of the good is produced and consumed.

When positive externalities are associated with a good, too little of the good is produced and consumed.

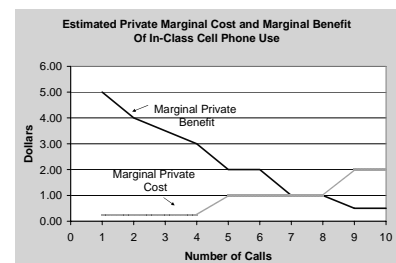
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## Cell Phone Use in Econ 101

Hypothetical private benefits and costs are shown.

How many calls will be made or taken if they are permitted?

How much larger is social MC than private MC?



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Externalities interfere with the efficient allocation of resources.

What is your estimate of social marginal cost of taking or making a cell phone call during Econ 101 lecture?

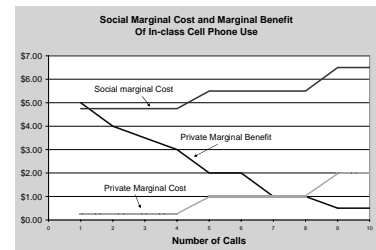
Suppose we "internalized" the social costs by imposing a tax on cell phone use in class?

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### Social Marginal Cost and Marginal Benefit Of cell phone use in Econ 101

What is the socially efficient level of class cell phone use?

What sort of policy on cell phone use in class would lead to social efficiency?



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Use Your Clickers To Answer The Following Graded Question.

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The socially optimal amount of cell phone use in class is...

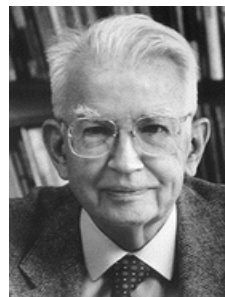
- A. None, because most people can postpone their calls.
- B. Only those calls that have a private marginal benefit greater than the social marginal cost.
- C. Only those call that have low private marginal cost.
- D. Zero, because cell phone use in forbidden.

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Externalities persist in situations where property rights are either poorly defined or have not been secured.

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Ronald Coase  
Winner of the 1991 Nobel Prize



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### Ronald Coase's Argument

If bargaining is not costly and  
If property rights are secure,

Then agents can bargain over  
externalities  
And achieve an efficient outcome.

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### Ronald Coase's Argument

If non-smokers have the rights to the air,  
they will permit smoking if smokers  
compensate them sufficiently.

If smokers have the rights to the air, they  
will not smoke if non-smokers compensate  
them sufficiently.

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## Externalities and Property Rights

Suppose a paper mill is located on the banks of a trout stream. The mill must decide whether to discharge high or low amounts of chemical waste from paper making into the stream.

If it chooses a high discharge rate, the mill is more valuable (because it can dispose of waste at a low private cost) and the fishery is less valuable because there the trout are fewer and smaller.

If it chooses a low discharge rate, the mill is less valuable but the fishery is more valuable.

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The values of the mill and fishery as a function of the mill's pollution decision.

Decision	Mill Value	Fishery Value
High Discharge	\$3000	\$2000
Low Discharge	\$1000	\$6000

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Use Your Clickers To Answer  
The Following  
Graded Question.

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Decision	Mill Value	Fishery Value
High Discharge	\$3000	\$2000
Low Discharge	\$1000	\$6000

The social optimum is \_\_\_ discharge because \_\_\_.

- A. High, Because the mill loses \$2000 if discharge is low.
- B. High, Because the Fishery could not compensate the Mill for its losses due to low discharge.
- C. Low, Because the total value of Mill and Fishery is greater for low than for high discharge.
- D. Low, Because the Fishery could not compensate the Mill for its losses due to low discharge.

Use Your Clickers To Answer  
The Following  
Non-Graded Question.

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Decision	Mill Value	Fishery Value
High Discharge	\$3000	\$2000
Low Discharge	\$1000	\$6000

If the Mill has the right to pollute as much as it wants and bargaining is not costly then...

- A. The Fishery will pay the Mill something over \$2000 to switch to low discharge.
- B. The Fishery will not be able to reach a bargain resulting in low discharge.
- C. The Fishery will go out of business because of pollution.
- D. The Fishery will pay the Mill something over \$4000 to switch to low discharge.

## Assignment For Tuesday

Read "Emissions Trading versus CO2 Taxes"  
by W. H. Parry and UNC Graduate William  
Pizer.

Read "The Trouble with Markets for Carbon"  
by James Kantner.

Recitation next week will help you prepare  
for the second midterm examination.

Practice questions will be posted by Oct 26.

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What Have We Learned?

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## Externalities and Property Rights

Externalities are costs and benefits that are experienced by people other than the producers and consumers of goods.

A negative externality leads to over production of the good in question—an inefficient outcome.

If property rights are secure, agents can bargain over externalities and reach an efficient outcome.

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