

Lecture 12: Externalities

1. Market failure occurs when an action creates costs or benefits to others, and the creator of the action is not charged for the cost or paid for the benefit.

Examples:

You drive a vehicle (action) which emits some pollutants, but you don't directly pay for the costs of the pollution

You smoke a cigarette (action) while driving and other passengers cough from the second hand smoke, but you don't pay for their discomfort

You get a flu shot (action) and therefore reduce the chances of your friends catching the flu, but they don't pay you for the benefit they receive

My neighbor plants azaleas (action) and I enjoy their beauty and fragrance, but I don't pay my neighbor for this benefit

2. Definitions

Externality: the resulting cost or benefit from an action that isn't fully considered by the person or business creating the action

Negative externality: occurs when the action creates costs to others, and the creator of the action is not charged for the costs

Positive externality: occurs when the action creates benefits to others, and the creator of the action is not paid for the benefits

3. The Problem

If externalities go unaddressed, too *many* negative externalities will be produced and too *few* positive externalities will be produced

Reason

For negative externalities, the person creating it doesn't pay all the costs, so more is produced compared to if all costs were assessed to the person

For positive externalities, the person creating it doesn't receive all the benefits, so less is produced compared to if all benefits were paid to the person

4. The Solution

Tax the action creating a negative externality, and subsidize (from government funds) the action creating a positive externality

Examples: add a "pollution tax" to the price of gasoline, and subsidize the price of flu shots

5. Reality

There are numerous positive and negative externalities, many of which go unaddressed by the government because they are considered still minor or because those affected can negotiate or take action to avoid the externalities (example: if you don't like second hand smoke, you will avoid riding with a driver who smokes)

Major externalities and how addressed:

Higher Education: considered a positive externality because society at large benefits from the increased productivity (and tax paying ability) of persons with higher education degrees; therefore, higher education costs to students are heavily subsidized by the government

Public Health: highly contagious diseases are addressed by public health departments to prevent and control the diseases

Smoking: there are taxes on cigarettes which some could interpret as addressing the negative externality; in public places it is costly to have negotiated agreements over the amount of smoking to allow - so prohibition has been the policy (some private establishments address the same issue by having "smoking" and "non-smoking" sections)

Pollution: has not typically been addressed with a tax; traditional approach has been laws prohibiting pollution or limiting amount

There has been developed a new approach to pollution, called "tradeable permits" that follows these steps:

- a) define a geographic area where pollution occurs, like a river basin or metropolitan area
- b) have experts define "allowable and safe" pollution amounts
- c) issue permits to pollute, where sum of permits equal the allowable and safe amount
- d) initially have government sell the permits, but then let users sell the permits between themselves (thereby creating a market)
- e) result: pollution is done by those for whom reducing pollution is very costly, but overall pollution levels are kept at safe levels