# Externalities

## Definition

An externality exists when the consumption or production choices of one person or firm enters the utility or production function of another entity without that entity's permission or compensation. For example, two firms are located in river. The first is producing steel, while the second, operates resort hotel. Both are using the river, but in different ways. The steel firm uses it as a receptacle for its waste, while the resort hotel uses it to attract the customers seeking water recreation. Above facilities have extracted by two owners, even though an efficient use of the water is not likely to result. Because the steel plant does not bear the cost of reduced business at the resort resulting from waste being dumped into the river. So if there will be continuation of dumping too much of waste in to the river, and an efficient allocation of the river would not be attained.

External effects can be either positive or negative. However external effects often negative (also referred to as an external diseconomy or external cost). This occurs when the affected person suffers a loss in utility that is uncompensated. Examples of negative externalities are air, water and noise pollution. A positive externality (external economy, or external benefit) occurs when the effect is benefited to the affected person. An example of a positive externality is immunization.

## Causes of Externalities

1. Interdependence between economic agents - one person's activity affects the utility or production of another. However the market system fails to 'price' this interdependence, so that affected party is uncompensated.
2. Lack of or weak property rights - Due to the lack of property rights, the affected party is unable to demand or ask the compensation for the damage, which are made by externality.
3. High transaction costs - The cost of negotiation, implementation and enforcement between the parties maybe high.

## Classification of Externalities

Externalities can be classified in different ways. Externalities can be

- Relevant externalities
- Pareto relevant externalities
- Static and dynamic externalities
- Pecuniary externalities

## Relevant externalities

An externality is not relevant until the affected person is indifferent to it. It will become a relevant when the affected person is suffering by the activity and wants the offending person to reduce the level of the activity.

## Pareto relevant externalities

A Pareto relevant externality exists whenever its removal results in a Pareto improvement. A Pareto improvement is a situation where will be possible to take action, such that the affected person is made better off without making the offending person worse off. It means that the when the level of an externality is optimal, it becomes Pareto irrelevant.

## Static and dynamic externalities

To point out the static and dynamic externalities, take the example of two fishers who are operating under an open access or property rights regime. A static externality is when one creates an externality for the others by overfishing. However, the externality can becomes dynamic if the offending party is harvesting fuvenile fish that may have some future value. In this case, there will be adverse impacts for the future.

## Pecuniary externalities

A pecuniary externality occurs when the externality is passing through higher prices or reduced costs. Suppose the new firm moves in to an area and it increases the rental price of the land. That increase creates the negative effect on all those who are paying rent and, therefore, is an external economy. There is no market failure because the higher rents are reflecting the scarcity of land and pollution also not a pecuniary externality because the effect is not transmitted through higher prices.

**Source**

John Asafar-Adjaye, Environmental Economics for Non-Economist, World Scientific, Singapore, 2000, pp 72-75

Tom Titenberg, Environmental Economics and Policy, 3rd Edition, The Addition Wesly Longman, USA, pp 64-66