Gwinnett School of Math, Science, and Technology

Macroeconomics Yearlong Notes

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1st Period

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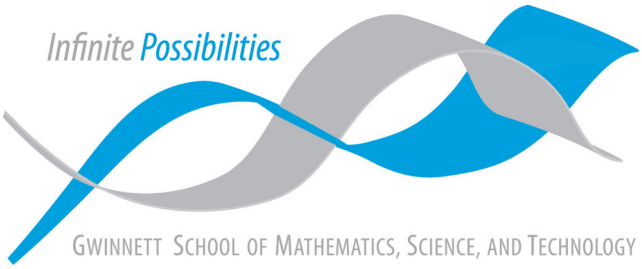

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1 Types of Goods (01/08)

1.1 Characteristics of the Four Types of Goods

- **Rivalrous** goods are those that can only be consumed by one person at a time.
- **Non-rivalrous** goods are those that can be consumed by multiple people at the same time.
- **Excludable** goods are those that can be restricted to certain people.
- **Non-excludable** goods are those that cannot be restricted to certain people.
- If a public good is overcrowded enough, it can become a common resource

1.2 The Four Types of Goods

	Non-rivalrous	**Rivalrous**
Non-excludable	*Public Goods* (e.g. Sunset, Common Knowledge)	*Common-Pool/Common Resources* (e.g. Irrigation Systems, Libraries)
Excludable	*(Toll/Club/Artificially Scarce) Goods/Natural monopolies* (e.g. Day-Care Centers, Country Clubs)	*Private Goods* (e.g. Donuts, Personal Computers)

1.3 Examples

Case Scenario	Type of Good/Service
A college education	Artificially scarce
A manicure or pedicure	Private good
Stone Mountain park	Artificially scarce
State park campgrounds	Artificially scarce
National defense	Public good
Peach Pass lane on I-85	Artificially scarce
Fish in the ocean	Common resource
Street lights	Public good
Netflix/Hulu	Artificially scarce
Flu shot	Private good
Tornado safety shelter	Public good

Case Scenario	Type of Good/Service
Bottled water in a tornado safety shelter	Common resource
Hearing a tornado siren	Public good
Going to an almost empty public beach	Public good
Going to an overcrowded public beach	Common resource
St. Lawrence SeaWay	Natural monopoly
Flying on a commercial airplane	Natural monopoly
Flying a single seat private airplane	Private good
Wedding guests eating a slice of the wedding-cake	Common resource
Cake sold at a bakery	Private good

2 Introduction to Externalities (01/09)

- An **externality** is a cost/benefit that affects a *third party* who did not choose to incur that cost/benefit.
- They are a type of **market failure** because they are *not* accounted for in the price of the good/service.
- The DWL of positive externalities will point to the right and vice-versa for negative externalities.
  - It also always points to the social optimum quantity.

2.1 Positive Externality in Consumption

2.1.1 Examples

- Consumption of education
- Consumption of health care
- Advertisement can lead to an increase of demand in the free market $\therefore MPB$ goes up and moves the market toward MSB.

2.1.2 Spillover Effect

- The spillover effect is $MSB = MPB + MEB$.
- $MPB = MSB$
- $MB > MSB$

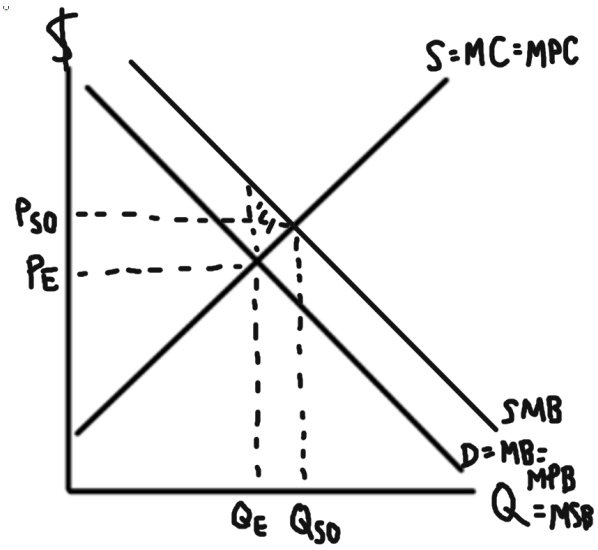

Figure 1: Positive Externality in Consumption

2.1.3 Internalizing the Spillover Effect

The external **benefits** can be internalized by **subsidizing** the product/service to the consumers of the good/service.

2.2 Negative Externality in Consumption

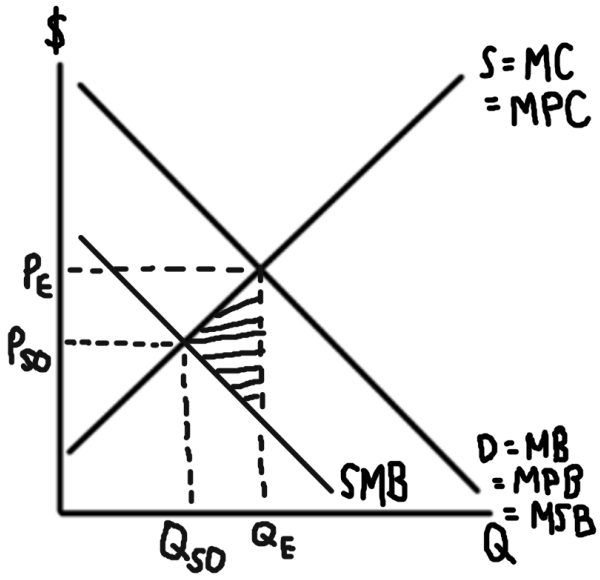

Figure 2: Negative Externality in Consumption

2.2.1 Examples

- Smoking in public/passive smoking
- Pollution due to fossil fuels
- Playing loud music
- Discarding garbage in public places

2.2.2 Spillover Effect

- The spillover effect is $MSB = MPB - MEB$.
- $MPB = MSB$
- $MB < MSB$

2.2.3 Internalizing the Spillover Effect

The external **costs** can be internalized by **imposing a tax** on the product/service to the consumers of the good/service.

2.3 Positive Externality in Production

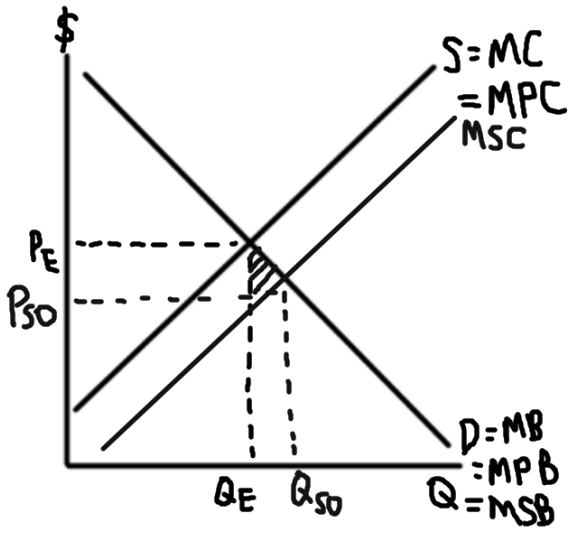

Figure 3: Positive Externality in Production

2.3.1 Examples

- Companies invest in training/professional development of their employees.
- Firms invest in research and development (R&D).

2.3.2 Spillover Effect

- The spillover effect is $MSC = MPC - MEC$.
- $MPB = MSC$
- $MC > MSC$

2.3.3 Internalizing the Spillover Effect

The external **benefits** can be internalized by **subsidizing** the product/service to the producers of the good/service.

2.4 Negative Externality in Production

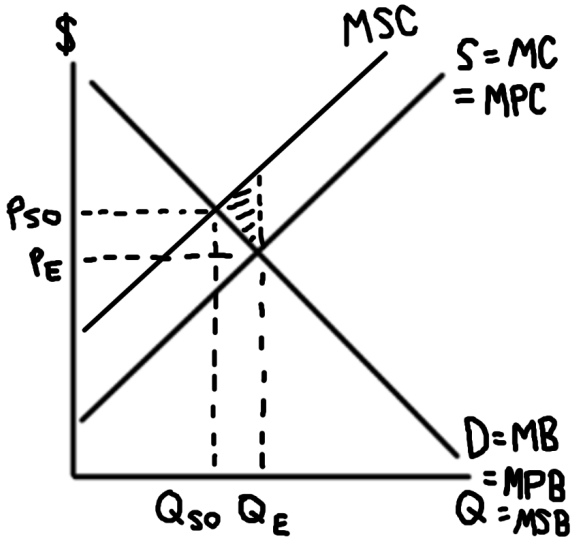

Figure 4: Negative Externality in Production

2.4.1 Examples

- Firms produce chemicals that cause pollution *therefore* local fisherman cannot catch fish.
- Construction of roads lead to change of landscape and parks
- Coal fired power plants

2.4.2 Spillover Effect

- The spillover effect is $MSC = MPC + MEC$.
- $MPB = MSC$
- $MC < MSC$

2.4.3 Internalizing the Spillover Effect

- The external **costs** can be internalized by **imposing a tax** on the product/service to the producers of the good/service.
- The government intervention will move the private market to **social optimum** where $MSB = MSC$.