**ECO 2306 – Principles of Microeconomics**

Week 11

**Hello and Welcome to the weekly resources for ECO 2306 – Principles of Microeconomics!**

**This week is Week 11 of class, and typically in this week of the semester, your professors are covering these topics below.**  If you do not see the topics your particular section of class is learning this week, please take a look at other weekly resources listed on our website for additional topics throughout of the semester.

We also invite you to **look at the group tutoring chart on our website to see if this course has a group tutoring session offered this semester**.

If you have any questions about these study guides, group tutoring sessions, private 30 minute tutoring appointments, the Baylor Tutoring YouTube channel or any tutoring services we offer, please visit our website [www.baylor.edu/tutoring](http://www.baylor.edu/tutoring) or call our drop in center during open business hours. M-Th 9am-8pm on class days 254-710-4135.

Our main resource is going to be Principles of Microeconomics by N. Gregory Mankiw.

**Topic of the week**

**Public Goods and Common Resources**

**Keywords:** excludability, rivalry in consumption, private goods, public goods, common resources, club goods, free rider, cost-benefit analysis, tragedy of the commons.

**Concepts:**

So far we have been discussing private goods. However, we all consume goods that are owned by everybody. We breathe air and enjoy nature. These goods don’t have a price tag, so a normal market economy may run into problems with them. We need to learn how government policy can remedy the market failure and increase economic well-being when it comes to public resources.

**Different Kinds of Goods**

In order to categorize goods, we need to know two characteristics they might have. E**xcludability** is the property of a good whereby a person can be prevented from using it. Most goods are excludable; you need to pay Subway for a sandwich. Other goods such as air or radio are not excludable. **Rivalry in consumption** the property of a good whereby one person’s use diminishes other people’s use. If I eat a sandwich, you cannot eat the same sandwich. Most goods are rivalrous. Some goods such as concerts or knowledge are not rivalrous. Now we can define four types of goods.



Figure 1 Four types of goods (source: Mankiw)

Public goods and common resources are not excludable, so everyone can use them. These goods have no price attached to them, but have external effects. Providing a public goods has positive externalities (benefits to society) and using common resources has negative externalities (there will be less for others). Private decisions about public goods and common resources can lead to an inefficient allocation of resources and government intervention might be necessary.

**Public Goods**

Public goods are not excludable and this property leads to the free rider problem.a **free rider**­ is a person who receives the benefit of a good but avoids paying for it. The free rider problem prevents the private market from supplying the goods and is very pervasive in society. To solve this problem, if the total benefits of a public good exceed its costs, the government can provide the good and pay for it with tax revenue. This will make everyone better off. Some important public goods include national defense, basic research, and fighting poverty (welfare, food stamps, government housing).

**Cost–benefit analysis** is a study that compares the costs and benefits to society of providing a public good. This is a very difficult job for the government, and the findings of such analysis is a rough approximation at best. This analysis is necessary to decide what public goods and what amount of them should be provided.

**Common Resources**

Common resources are not excludable but are rival in consumption. This rivalry leads to the **tragedy of the commons:** a parable that illustrates why common resources are used more than is desirable from the standpoint of society as a whole. Imagine a town with one water tower for everybody. The tower gathers rain water and is free to use. Social incentive is to preserve water for everyone to use, but private incentive is to use as much water as possible before everyone else. In this situation, one person uses all common resources and when a lot of people act like this, common resources will be used excessively and the negative externality will hurt the society.

The government can solve the tragedy of the commons by **regulating** time and amount of using common resources. The government can also set a certain **tax** for using these resources to make sure there is no excessive use. Also, it is possible to **privatize** the common resource and let the market equilibrium price act as a regulating mechanism.

Some important common resources include clean air and water, congested roads, and fish and other wildlife. We explained keeping pollution down using regulation and taxes. Congested roads can be helped by setting tolls or taxing gasoline to make sure only people with urgent business drive on them. Wildlife is protected by having certain hunting seasons and limitations on the number of animals that can be hunted.

**The Importance of Property Rights**

If property rights are not well established, market fails to allocate resources efficiently. Sometimes a valuable item does not have an owner with legal authority to control it. The government can solve this problem by defining property rights and unleashing market forces, regulating private behavior, and using tax revenue to supply a good that the market fails to supply.

**What you might struggle with**

Balancing economic well-being with our social, political, and environmental incentives can be tricky. Always think of government and private action in terms of public trad-offs as well as private benefits. Completely uncompromising policies usually lead to adverse unintended effects.

**Check your learning**

1. Think about the goods and services provided by your local government.

a. Using the categories in Figure 1, classify each of the following goods, explaining your choice:

• police protection

• snow plowing

• education

• rural roads

• city streets

b. Why do you think the government provides items that are not public goods? (source: Mankiw)

2. Both public goods and common resources involve externalities.

a. Are the externalities associated with public goods generally positive or negative? Is the free-market quantity of public goods generally greater or less than the socially efficient quantity? Cite examples in your answer.

b. Are the externalities associated with common resources generally positive or negative? Is the free-market use of common resources generally greater or less than the socially efficient use? Cite examples in your answer. (source: Mankiw)

3. Fredo loves watching *Downton Abbey* on his local public TV station, but he never sends any money to support the station during its fund-raising drives.

a. What name do economists have for people like Fredo?

b. How can the government solve the problem caused by people like Fredo?

c. Can you think of ways the private market can solve this problem? How does the option of cable TV alter the situation? (source: Mankiw)

4. Many transportation systems, such as the Washington, D.C., Metro (subway), charge higher fares during rush hours than during the rest of the day. Why might they do this? (Source: Mankiw)

5. Some economists argue that private firms will not undertake the efficient amount of basic scientific research.

a. Explain why this might be so. In your answer, classify basic research in one of the categories shown in Figure 1.

b. What sort of policy has the United States adopted in response to this problem?

c. It is often argued that this policy increases the technological capability of American producers relative to that of foreign firms. Is this argument consistent with your classification of basic research in part (a)? (source: Mankiw)

**Answers**

These are my answers. You should be able to come up with your own arguments that may or may not differ from mine.

1. police protection: club good, available, limited capacity

Snow plowing: public good: everybody benefits

Education: private good, the student benefits

Rural roads: public goods: no tolls, no congestions, everybody can use

City streets: common resources: there’s congestion that limits use

b. some private goods (like education) have so many positive externalities so it benefits everybody if the government provides them.

2. a. positive. Less. A good example is parks. Private firms can set up theme parks and sell tickets to make a profit, but a simple green space with a little playground doesn’t make anyone rich, so the private sector has no incentive to build small parks.

b. negative. Greater. Think of the buffalo. In the 19th century the north American buffalo was almost hunted to extinction, because without anu regulation, it was in the best interest of each hunter to hunt as much as possible, but it was in the best interest of society to maintain a healthy population of the animal by regulating hunting.

3. a. free rider

b. charge money for public TV

c. yes, the TV station can be privatized and the private companies can charge Fredo for a subscription.

4. this makes sure that people who can change their riding schedule do so and leave the subway to those who really need it during the rush hour.

5. a. basic research is a public good, is available for free, and benefits everyone. Private firms may not do enough basic research because there isn’t much money to be made in a lot of research areas, such as the composition of stars.

b. Public research grants from the national science foundation, NASA, and the military to private universities. Also, public universities perform research using government funds.

c. a lot of research performed in the US cannot be easily accessed by foreign countries. For example, just because other countries can observe American satellites and missiles, it doesn’t mean they can simply replicate them. But domestic companies and universities can access the relevant research and information.

Thanks for checking out these weekly resources!

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