excludability: the property of a good whereby a person can be prevented from using it When thinking about the various goods in the economy, it is useful to group them according to two characteristics: rivalry in consumption: the property of a good whereby one person's use diminishes other people's use Rival in consumption? Private Goods Club Goods Fire protection Ice-cream cones The Different Kinds of Goods Clothing Cable TV Congested toll roads Uncongested toll roads Most goods in the economy are private goods like ice-cream cones: You Excludable? don't get one unless you pay for it, and once you have it, you are the only Common Resources Public Goods person who benefits. private goods: goods that are both excludable and rival in consumption Fish in the ocean Tornado siren That is, people cannot be prevented from using a public good, and one The environment National defense person's use of a public good does not reduce another person's ability to Congested nontoll roads Uncongested nontoll roads public goods: goods that are neither excludable nor rival in consumption common resources: goods that are rival in consumption but not excludable club goods: goods that are excludable but not rival in consumption free rider: a person who receives the benefit of a good but avoids paying Because people would have an incentive to be free riders rather than ticket buyers, the market would fail to provide the efficient outcome. The Free-Rider Problem Because public goods are not excludable, the free-rider problem prevents the private market from supplying them. The government, however, can remedy the problem. If the government decides that the total benefits of a public good exceed its costs, it can provide the public good, pay for it with tax revenue, and potentially make everyone better off. National Defense: People disagree about whether this amount is too small or too large, but almost no one doubts that some government spending for national defense is necessary. Even economists who advocate small government agree that national defense is a public good the government should provide. Patent makes the knowledge created by the inventor excludable. Once a theorem is proven, the knowledge is not excludable: The theorem enters society's general pool of knowledge that anyone can use without The government tries to provide the public good of general knowledge in Basic Research various ways. Determining the appropriate level of government support for these endeavors is difficult because the benefits are hard to measure. Moreover, Some Important Public Goods the members of Congress who appropriate funds for research usually have little expertise in science and, therefore, are not in the best position to judge what lines of research will produce the largest benefits. Many government programs are aimed at helping the poor. The welfare system provides a small income for some poor families. One person's enjoyment of living in a society without proverty would not reduce anyone else's enjoyment of it. Once poverty is eliminated, no one can be prevented from taking pleasure Public Goods in this fact. Fighting Proverty As a result, there would be a tendency for people to free ride on the generosity of others, enjoying the benefits of poverty elimination without contributing to the cause. Because of the free-rider problem, eliminated poverty through private charity will probably not work. Yet government action can solve this In deciding whether something is a public good, one must determine who Chap 11: Public Goods and Common Resources the beneficiaries are and whether these beneficiaries can be excluded from using the good. Case Study: Are Lighthouses Public Goods? cost-benefit analysis: a study that compares the costs and benefits to society of providing a public good Quantifying benefits is difficult using the results from a queationnaire, and respondents have little incentive to tell the truth. Those who would use the highway have an inventive to exaggerate the benefit they receive to get the highway built. Those who would be harmed by the highway have an incentive to exaggerate the costs to them to prevent the highway The Difficult Job of Cost-Benefit Analysis from being built. Cost-benefit analysis do not have any price signals to observe when evaluating whether the government should provide a public good and how much to provide. Their findings on the costs and benegits of public projects are rough approximations at best. The costs and benefits must be measured in the same units if you are to compare them meaningfully. The cost is measured in dollars, but the benefits--the possibility of saving a person's life -- is not directly monetary. To make your decision, you have to put a dollar value on a human life. Case Study: How Much Is A Life Worth? In both our public and private dicisions, we at times willing to risk our lives to save some money. 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 When one person uses a common resource, she diminishes other people's enjoyment of it. Because of this negative externality, common resources tend to be used excessively. The government can solve the problem by using regulation or taxes to reduce consumption of the common resource. The Tragedy of the Commons Alternatively, the government can sometimes turn the common resource into a private good. What is common to many is taken least care of, for all men have greater regard for what is their own than for what they possess in common with others. Clean Air and Water Common Resources Some Important Common Resources **Congested Roads** Fish, Whales, and Other Wildlife Why does the commercial value of ivory threaten the elephant, while the commercial value of beef protects the cow? The reason is that elephants are common resource, whereas cows are a private good. Some countries have made it illegal to kill elephants and sell their ivory. Yet these laws have been hard to enforce, and the battle between the Case Study: Why The Cow is Not Extinct authorities and the poachers has become increasingly violent. Meanwhile, elephant populations have continued to dwindle. Other countries have made elephants a private good by allowing people to kill elephants, but only those on their own property. With private Governments have tried to solve the elephant's problem in two ways. ownership and the profit motive now on its side, the African elephant might someday be as safe from extinction as the cow.

Conclusion: The Importance of Property Rights