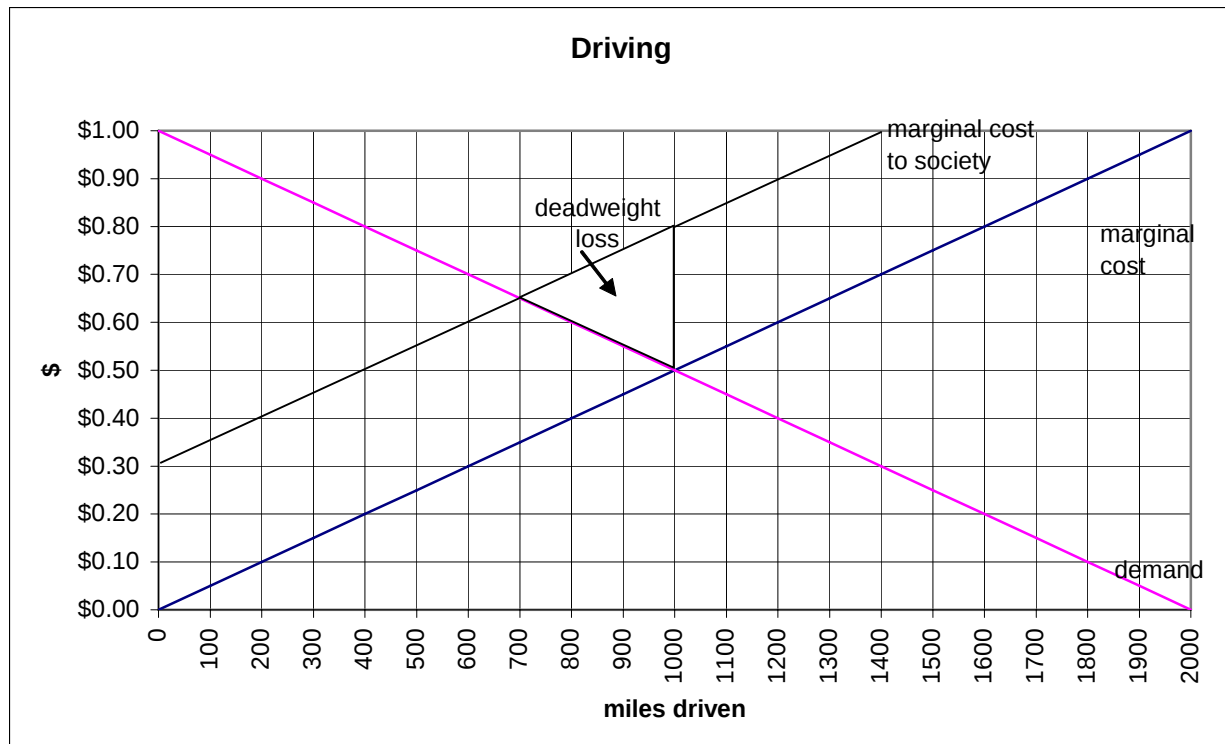


Homework 6 – answer key

1. The graph below shows the demand and marginal cost curve for miles driven. The demand curve reflects the marginal benefit to the person driving while the marginal cost curve includes gas, wear and tear on the car, etc. For every mile driven, there is an external cost of pollution of 30 cents per mile.



- Draw a curve that shows the marginal cost to society of driving. (See the info in the paragraph above.) **See the graph. The marginal cost to society is the marginal cost of driving plus the 30 cents per mile externality cost.**
- How many miles of driving would be efficient? **The efficient number of miles is where the marginal cost to society crosses demand, which is 700 miles.**
- If there is no government intervention, how many miles will people choose to drive? Draw the deadweight loss associated with this. **People will choose to drive 1000 miles, where marginal cost of driving crosses demand. The deadweight loss is on the graph.**
- If the government were going to put a tax on driving, how much should the tax be to get the efficient outcome? **The tax should be equal to the external cost, which in this case is 30 cents per mile.**
- If the government assigned drivers pollution rights to the cleanliness of the air, would we get the efficient outcome? Explain. **In theory we would because those affected by pollution would pay drivers up to 30 cents per mile not to drive. However, in reality, transaction costs may make it so it is hard for so many people to reach a deal.**

2. What are the two characteristics a good must have to be a public good? Give an example of a public good and explain why it fits these characteristics.

The two characteristics are nonrival and nonexcludable. Nonrival means that consumption by one person does not reduce the amount of consumption available to others.

Nonexcludable means that it is impossible or prohibitively costly to keep someone from using a product if it is produced. There are many examples. One is public radio. It would be hard to send a radio signal that can exclude people who don't pay for it (although XM radio does do this) and it is nonrival because if I turn on my radio, that doesn't mean that your radio signal gets weaker.

3. If a good is a public good, do we expect the private market to provide the efficient amount of the good, too much of the good, or too little of the good? Explain.

We expect the market to provide too little of the good because of freeriding. Freeriding is when a person uses a product but doesn't pay for it. With a public good, it is hard (or impossible) to keep someone from using the product even if they don't pay for it so people have an incentive to freeride and not use the good. The result is that we will get less than the efficient amount of the public good.

4. For each of the following, state which investment would have the higher expected return, ceteris paribus. **Explain.**

a. a liquid investment compared to an investment that is less liquid

An investment that is less liquid. The only way to get someone to choose a less liquid investment is to compensate them with higher expected returns.

b. a risky investment compared to an investment that is less risky

A risky investment. The only way to get someone to choose a more risky investment is to compensate them with higher expected returns.

c. a money market or a mutual fund

A mutual fund. It is more risky than a money market and thus should have a higher expected return.

5. By this time you have a pretty good idea about multiple-choice tests in this class. On the attached sheet I want YOU to write two multiple-choice questions that could be used on the third test or on the final exam for material covered on the third test. Each question should cover material we have discussed since the last midterm. The questions can be on any subject we covered, but cannot be from the old exams that are on my web page. I will read through these questions and the ones that I think are best will appear on the exam. This means you have an incentive to write good questions – if you write good questions, you increase the likelihood your question is on the test and thus that you will get the question correct. (Remember, I don't really like to use questions that are just definitions – try to make the question apply the material we have learned.) Make sure the question is clear (you know how much you hate confusing questions) and has either 4 or 5 answers listed. Put a star next to the answer that is correct. **Answers will vary. You will see the best ones on your exam!**