

Environmental Economics and Policy (Econ 231-01)

Homework 6

Due December 7

60 points

Label and explain all graphs

1. (20 points) Climate Change

a. Policy makers are uncertain about both the marginal social benefits (MSB) and the marginal social costs (MSC) of carbon abatement. Use graphs of MSB and MSC of abatement under uncertainty to explain which policy, carbon taxes or permits, would likely be most allocatively efficient.

b. How might a cap-and-trade system be designed to incorporate some of the positive characteristics of a carbon tax? Explain how each modification removes one of the disadvantages of conventional cap-and-trade system and adds one of the advantages of a carbon tax.

2. (40 points) Climate Change, the Stern Review, and Fat Tails

a. According to Mendelsohn, on what main assumptions do the results from the Stern rest? Does he think these assumptions reasonable? Explain.

b. Write down the equation that Weitzman uses to decompose the discount rate, and explain the meaning of each component.

c. What values does Stern plug into this equation? What does Weitzman say about the appropriateness of these values? Explain.

d. Explain what Weitzman's discussion of "fat tails" and the "dismal theorem" that follows from the existence of these "fat tails" implies for (1) the relevance of the debate over the appropriate discount rate for climate change policy and (2) how nations should go about designing optimal climate change policy. Make sure you define exactly what Weitzman means by "fat tails" and the "dismal theorem".