Questions to be discussed at the 6th seminar, ECON4260

Please direct any questions regarding the problems below to Karine Nyborg, karine.nyborg@econ.uio.no, phone # 22 85 72 83.

Problem 1
a) What is a public good game?
b) Assume that each player in a one-shot public good game has preferences for his own material payoff only. Which outcome of the game would you expect? Why?
c) Discuss to what extent your predictions from Question 1b seem to accord with public good game findings reported in the experimental economics literature.
d) Could inequity aversion provide a possible explanation to the typical findings in experimental one-shot public good games? Why? (An intuitive explanation is sufficient.)

Problem 2
a) What is a convention? Provide a definition, and give at least one example.
b) What is a social norm? Provide a definition, and give at least one example.
c) Could your example of a social norm also be considered a convention? Discuss.
d) Could your example of a convention also be considered a social norm? Discuss.

Problem 3
Assume that asthma patients benefit from clean air, while healthy people do not notice the difference. Liza and Adam both consider whether to contribute to a project improving air quality. They are both healthy, and do not care about clean air for their own sake. Each of them has an exogenously fixed income of 100, which can be spent on private consumption or contributions to cleaner air, where one unit of G costs one unit of consumption.

Liza is a pure altruist, and her utility, U_L, is given by

$$(1) \qquad U_L = \quad 9\ln c_L + 2\ln G \qquad \text{if } G > 0$$
$$9\ln c_L \qquad\qquad\qquad \text{if } G = 0$$

where c_L is Lisa's consumption of private goods, G is a measure of air quality, and $(2\ln G)$ is the altruistic benefit she gets from knowing that the air quality has level G.

Adam, on the other hand, is concerned about warm glow. His utility is

$$(2) \qquad U_A = \quad 9\ln c_A + 2\ln g_A \qquad \text{if } g_A > 0$$
$$9\ln c_A \qquad\qquad\qquad \text{if } g_A = 0$$

where c_A is Adam's consumption of private goods, and g_A is Adam's contribution to cleaner air.

Both Lisa and Adam think that if he/she does not contribute, the level of air quality will be fixed at 90.

a) How much will Liza contribute?
b) How much will Adam contribute?
c) Who contributes most? Why? Provide an intuitive explanation.

Problem 4

A consumer, Bill, purchases voluntarily a climate ticket to neutralize his extra CO_2 emissions when travelling by air. Assume that the cost of the climate ticket is substantial, given Bill's budget. Bill does not expect to be able to notice at all the improvement in global climate due to his own purchase of climate tickets, nor does he expect anyone else to notice this difference. However, he believes that if all air passengers did neutralize their CO_2 emissions by purchasing climate tickets, this would make a significant difference. Assume that the initial global climate, E^0, is considered exogenous by Bill. Can his purchase of climate tickets be explained by the following models?

   a) Bill has preferences for his own private consumption (x_B) and a stable global climate (E), as follows:

   $U_B = u(x_B) + v_B(E)$
   where u and v_B are strictly concave and strictly increasing functions, and $v_B(E)$ reflects Bill's own benefits of a stable climate.

   b) Bill has preferences for his own private consumption (x_B) and a stable global climate (E), as follows:

   $U_B = u(x_B) + v_B(E) + v_{-B}(E)$
   where u, v_B, and v_{-B} are strictly concave and increasing functions, $v_B(E)$ reflects Bill's own benefits of a stable climate, and $v_{-B}(E)$ his concern for others' benefit of a stable climate.

   c) Bill has preferences for his own private consumption (x_B) and social approval (s_B) as follows:

   $U_B = u(x_B) + s_B$
   where $s_B = s(g_B)$, s is an increasing and concave function, and g_B = Bill's purchase of climate tickets.

   d) Bill has preferences for his own private consumption (x_B) and social approval (s_B) as follows:

   $U_B = u(x_B) + s_B$
   where $s_B = g_B \cdot \alpha g_{-B}$, $\alpha > 0$, and g_{-B} is the average climate ticket purchase among other passengers on Bill's flight. Consider in particular the case if no-one else on the flight purchases climate tickets.

   e) Bill has preferences for his own private consumption (x_B) and his self-image as a morally responsible individual (S_B) as follows:

   $U_B = u(x_B) + S_B$
   where $S_B = -\frac{1}{2}(g_B - g^*)^2$, and where $g^*>0$ is Bill's belief about the morally ideal climate ticket purchase for a person in his situation. (Consider g^* exogenous.)