ECONOMICS 7344, Spring 2004
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HOMEWORK 9. Due Monday April 19.

1. Obstfeld-Rogoff 5.2 (note that this is a bit of a "trick-question" since there isn't a single solution to the problem, explain why that is).

2. Obstfeld-Rogoff 5.3 (parts a and c).

3. Assume that 2 agents live for 2 periods in an economy with perfect Arrow-Debreu markets and no storage. Assume that the endowment of the first agent is $y_0 = 1, y_1 = 2$ and that the endowment of the second agent in period 0 is $y_0^* = 1$ and in period 1 his or her endowment is $y_1^* = 3$ in the "good state" g. In the "bad state" b the endowment of the second agent is $y_1^* = 1$. Assume that the good state happens with probability 1/2.
Assume each agent maximizes a utility function

$$\log(C_0) + E_0 \log(C_1) \ .$$

a) Find the period 0 prices of the Arrow securities that pays out one unit in the good and the bad state, respectively. (I suggest that you follow Obstfeld-Rogoff and parameterize such that the period 0 price of 1 unit delivered in the good state is $p^g/(1+r)$ and in the bad state it is $p^b/(1+r)$ which implies that $p^g + p^b = 1$ when r is the safe rate of interest. The price of a unit of period 0 consumption is normalized to 1.)
b) Find the safe rate of interest r.
c) Find the consumption of both agents in period 0, and in period 1 in the good state and in the bad state. (Hint. Use the Arrow securities to find the value of the endowment stream of each agent.)