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**Economics 732: Monetary Economics II**  
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**Problem Set # 7**

**Sunspots and Nonconvexities**

A.

$$\begin{array}{ll} h = 1, 2 & s = \alpha, \beta \\ X_h = \{0, 1\} & l = 1 \\ \omega_1 = a > 0 & \omega_2 = b > 0 \\ a + b = 1 & \end{array}$$

Study the set of SSE as a function of  $\omega_1/\omega_2$ . (Hint:  $\omega_1 = \omega_2 = \frac{1}{2}$  is a degenerate case.)

For which  $(\pi(\alpha), \pi(\beta))$  pairs do SSE exist? Which of these SSE are in the core? Which of these SSE are robust to a continuous randomizing device?

- B. Do Problem A for the case in which  $\omega_1 = 3/4$  and  $\omega_2 = 2/3$  so that  $1 < \omega_1 + \omega_2 < 2$ .
- C. Two guys. One indivisible good. One divisible good. Make an example in which there is a certainty equilibrium which is Pareto optimal among certainty allocations, there is an SE which is PO among stochastic allocations, but the SE is Pareto superior to the CE. Explain.