Sunspots and Nonconvexities

A.

\[ h = 1, 2 \quad s = \alpha, \beta \]
\[ X_h = \{0, 1\} \quad l = 1 \]
\[ \omega_1 = a > 0 \quad \omega_2 = b > 0 \]
\[ a + b = 1 \]

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.