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Economics 614: Macroeconomics II

Spring 2005

Cornell University

Problem Set #11

Due: Wednesday, April 20, 2005

1 Sunspots

2 individuals, $h = 1, 2$

2 states of nature, $s = \alpha, \beta$

1 indivisible good, $x_h \in \{0, 1\}$ for $h = 1, 2$

Let $\omega_1 = .3$ and $\omega_2 = .7$, so $\omega_1 + \omega_2 = 1$.

- (a) Fully describe all possible competitive equilibria. How do these depend on $(\pi(\alpha), \pi(\beta) = 1 - \pi(\alpha))$?
- (b) Replace the assumption of two states with the assumption that s is uniform on $[0, 1]$. Describe the set of competitive equilibria. What happens when moving from $s = \alpha, \beta$ to s uniform on $[0, 1]$? What would be changed if the uniform distribution is replaced by a general continuous p.d.f. on $[0, 1]$?
- (c) Do (a) and (b) for the case $\omega_1 = 0.4$ and $\omega_2 = 0.8$, so $\omega_1 + \omega_2 = 1.2$.

2

If there is a nonstochastic competitive equilibrium that is Pareto optimal, how can it be that a sunspot competitive equilibrium is superior. Give an example.