**Economics 614: Macroeconomics II**
Spring 2006
Cornell University
**Problem Set #13**
Due: Friday, April 28, 2006

# Money, Taxes and Sunspots

Four consumers: $H = \{1, 2, 3, 4\}$
Two states: $s = \alpha, \beta$
One commodity: $\ell = 1$
$u_h(x_h) = \ln x_n$, $h = 1, 2, 3, 4$
$\omega = (\omega_1, \omega_2, \omega_3, \omega_4) = (30, 20, 10, 20)$
$\tau = (\tau_1, \tau_2, \tau_3, \tau_4) = (5, 0, -2, -3)$
Common beliefs are $\pi(\alpha) = 1/4, \pi(\beta) = 3/4$

## 1 The Certainty Economy

(a) What are the competitive equilibrium goods prices of money?

(b) What are the competitive equilibrium allocations of commodities?

## 2 The Sunspots Economy

Assume that 1 and 2 are unrestricted while 3 and 4 cannot trade securities, i.e. $G^0 = \{1, 2\}$ and $G^1 = \{3, 4\}$.

(a) Describe equilibrium money prices $(P^m(\alpha), P^m(\beta))$.

(b) Choose from the equilibrium set particular strictly positive values of $(P^m(\alpha), P^m(\beta))$
Based on the numerical values:
(i) Draw the relevant tax-adjusted Edgeworth box
(ii) Find numerical values of the state contingent allocations for each consumer