Economics 4905
Financial Fragility & the Macroeconomy
Fall 2015
Problem Set #1
Due Monday, September 14, 2015

Money Taxation

Commodity, $\ell = 1$, chocolate. 5 consumers, $n = 5$:

$$\begin{aligned}\omega &= (\omega_1, \omega_2, \omega_3, \omega_4, \omega_5) \\ &= (100, 90, 80, 10, 50)\end{aligned}$$

1.

1 Money. Chocolate price of money is $P^m \geq 0$.
In each of the following cases, solve for the set $\mathcal{P}^m$ of equilibrium prices P^m:

(a)

$$\begin{aligned}\tau &= (\tau_1, \tau_2, \tau_3, \tau_4, \tau_5) \\ &= (1, 1, 0, -1, -1)\end{aligned}$$

(b)

$$\tau = (10, 5, 1, -5, -6)$$

(c)

$$\tau = (10, 8, 0, -8, -10)$$

2.

2 Monies, red dollars R and blue dollars B, with respective chocolate prices of money, $P^B \geq 0$ and $P^R \geq 0$.

In each of the following cases, solve for the equilibrium exchange rate between B and R. Do these depend on ω? Give the economic explanation.

(a)

$$\tau^R = (1,\ 1,\ 1,\ 0,\ 0)\ ,\quad \tau^B = (0,\ 0,\ 0,\ -1,\ -1)$$

(b)

$$\tau^R = (1,\ 1,\ 1,\ -1,\ -1)\ ,\quad \tau^B = (1,\ 0,\ 0,\ 0,\ 0)$$

(c)

$$\tau^R = (1,\ 0,\ 0,\ 0,\ -1)\ ,\quad \tau^B = (2,\ 0,\ 0,\ -1,\ -1)$$

3.

Absence of Money Illusion

Explain the difference between "absence of money illusion" and the "quantity theory of money". Be precise (with symbols).