Money Taxation

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

$$\omega = (\omega_1, \omega_2, \omega_3, \omega_4, \omega_5)$$
$$= (100, 90, 80, 10, 50)$$

1.

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

(a)  
$$\tau = (\tau_1, \tau_2, \tau_3, \tau_4, \tau_5)$$
$$= (1, 1, 0, -1, -1)$$

(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 $\omega$? 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).