Economics 614: Macroeconomics II
Spring 2004
Cornell University
Problem Set #1
Due: Friday, February 6, 2004

1

Static one-good (ℓ = 1) pure-exchange economy with money taxes and transfers. Four (n = 4) consumers.

ω = (ω₁, ω₂, ω₃, ω₄) = (1, 2, 3, 4),
where ω_i > 0 is the endowment of consumer i (i = 1, 2, 3, 4).

For each of the following: Is τ = (τ₁, τ₂, τ₃, τ₄) balanced? Is τ bona fide?
Describe the set of equilibrium money prices for:

(a) τ = (1, 1, −1, −1),
(b) τ = (−1, −1, 1, 1),
(c) τ = (−2, −1, 1, 2),
(d) τ = (0, 0, 0, 0),
(e) τ = (−1, −2, 1, 1).

2

Static one-good (ℓ = 1) pure-exchange economy. Three consumers (n = 3). Endowments are given by

ω = (ω₁, ω₂, ω₃) = (1, 10, 1).

Two currencies, R (for Red) and B (for Blue). Let p^{mR} ≥ 0 and p^{mB} ≥ 0 be the goods-price (resp.) of red and blue money.

(a) τ_R = (1, 1, −2), τ_B = (2, −1, −1);
(b) τ_R = (1, 1, 1), τ_B = (0, 0, −1);
(c) τ_R = (1, 0, 0), τ_B = (0, 0, 1);
(d) τ_R = (−1, 0, 5), τ_B = (−1, −1, −1).
For each case (a) through (d), calculate the set of equilibrium prices of red money, blue money, and the equilibrium exchange rate between the two currencies.

What are the economics behind your answers? Interpret your answers as if \( R \) = dollars and \( B \) = euros. How are the budget deficits and the trade deficits related in this model?

What do you make of the fact that money prices and exchange rates are not always uniquely determined?