

Question 1: Ricardian Model with Transfers

Suppose we have the same two country, two good Ricardian model with as in class.

Consumer preferences are the same across countries and equal to

$$U^i(c_1^i, c_2^i) = \theta_1 \log c_1^i + \theta_2 \log c_2^i, \quad i = H, F$$

Where $\theta_1, \theta_2 > 0$.

1.1) Suppose we have free trade and there is a flat transfer, T , from consumers in the Foreign country to consumers in the Home country. Write the budget constraint for consumers in each country.

1.2) What is the solution to the Consumer Problem in each country?

[Hint: the FOC wrt consumption are unchanged. Notationally, it can be helpful to let T^i represent the transfer to country i , which may be either negative or positive.]

1.3) Assume we have constant marginal input costs. Define an equilibrium for this economy. We no longer require balanced trade. What should the current account balance be in each country?

1.4) Let $a_1^H = a_2^F = 1$ and $a_2^H = a_1^F = 2$ be the unit input costs. Let $L^H = L^F = 1$ be the labor supply for each country. Assume that in equilibrium we stay in the case with complete specialization, so Home produces only good 1 and Foreign produces only good 2. Let $\theta_1 = \theta_2 = 1$.

Normalize $w^H = 1$ and solve for this equilibrium. How does the transfer affect relative wages, relative prices, and relative consumption of each good? Is Home made better off by the transfer?

1.5) Suppose the transfer is due to debt that the Foreign country owes the Home country. The Foreign country can choose to default, in which case it will not pay the transfer to the Home country. If Foreign country defaults, however, the Home country will retaliate by refusing to trade.

How high does the transfer have to be before the Foreign country would be better off defaulting? Consider using the following transformation for utility: $\text{Exp}[U^i(c_1^i, c_2^i)] = c_1^i c_2^i$.

1.6) Fill in the payoff matrix below, where $\text{Payoff} = \sqrt{4(\text{Exp}[U^i(c_1^i, c_2^i)])} = \sqrt{4c_1^i c_2^i}$

Note that if Home Refuses to Trade, we are in autarky and it is impossible for Foreign to Repay.

Payoff Matrix (F payoff, H payoff)	Foreign Repays	Foreign Defaults
Home Trades		
Home Refuses to Trade		

Is Home's threat of refusing to trade credible?