

Problem Set 1.

1. Consider a 2-period small open endowment economy model.
 - a. State the agent's objective function and budget constraint.
 - b. Derive and interpret the first order condition.
 - c. Suppose the world interest rate $r = 1/\beta - 1$. Solve for the value of C_1 .
 - d. Suppose the utility function is $u(c) = \text{Log}(c)$. Solve for C_1 .
2. In the above model suppose that the country faces a higher rate on borrowing than on lending (due to risk of sovereign default). Sketch the budget constraint. Show the possible equilibria. How does this situation differ from the baseline one without default premium?
3. Suppose that the government taxes income in lump sum amounts T_1 and T_2 in the two periods and spends the proceeds in amounts G_1 and G_2 over the two periods.
 1. Write down the government's budget constraint.
 2. Show that timing of taxes doesn't matter for consumption as long as the PDV of spending is unchanged (Ricardian equivalence).
 3. Suppose that, as is sometimes the case, the government can borrow (and for simplicity lend) at a lower interest rate than private agents, i.e. $r^G < r$. Suppose that the government initially runs a balanced budget and then switches to a policy of no taxes in period 1 without changing the PDV of spending. Show how this affect private consumption and the current account. Are the private agents better or worse off because of the budget deficit in period 1?

Problems 2, 3, 5 and 7 from Ch. 1 of our textbook.

