Monetary Economics
Workshop III 2020-21

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1. Consider an overlapping generations model where agents live for two periods, with population, N_t evolving according to $N_t = nN_{t-1}$. Assume logarithmic utility: $U_t = \ln C_{1,t} + \ln C_{2,t+1}$.

   Each individual born at time t is endowed with A units of the economy's single good, which cannot be stored but can be exchanged for money.

   There are $\frac{1}{n}N_0$ agents who are alive only in period 0 and they are endowed with some amount M units of money. Their utility is just $C_{2,0}$. The money supply grows according to

   $$M_t = zM_{t-1}$$

   Money created in the current period is received by the old as a transfer. New money is $M_t - M_{t-1} = \left(1 - \frac{1}{z}\right) M_t$.

   Find the value of the transfer received per old agent in period t.

   (a) Find the value of the transfer received per old agent in period t.

   (b) Write the lifetime budget constraint for an agent born in period t and obtain the optimal values of C_1 and C_2 for the stationary equilibrium.

   (c) Find ν_t/ν_{t+1}.

   (d) Explain the effects of an increase in z on consumption and welfare. What is the optimal value of z?

2. Run the Dynare file 'ecn324_workshop4.mod' in Dynare. This is available on Blackboard.