The Overlapping Generations Model

The model is set up as follows:

- 2-period lives
- 1 commodity per period, $\ell = 1$
- Stationary environment
- 1 person per generation

Where

$$\omega_0^1 = B > 0 \text{ for } t = 0$$

$$(\omega_t^t, \omega_t^{t+1}) = (A, B) > 0 \text{ for } t = 1, 2, ...$$

$$u_0(x_0^1) = D \log x_0^1 \text{ for } t = 0$$

$$u_t(x_t^t, x_t^{t+1}) = C \log x_t^t + D \log x_t^{t+1} \text{ for } t = 1, 2, ...$$

Define

$$z^t = \omega_t^t - x_t^t \text{ and } z^{t+1} = x_t^{t+1} - \omega_t^{t+1}$$
Solve for

a. The offer curve, OC

b. The set of equilibrium money prices, $\mathcal{P}^m$

c. The steady-states

d. The full dynamic analysis, including the stability of steady states

For each of the following cases:

1. $A = B = 1, C = 1, D = 5,$
   and $m_0^1 = 1$ for $s = 0$ and $m_s^t = 0$ otherwise.

2. $A = B = 1, C = 1, D = 5,$
   and $m_0^1 = 4, m_1^2 = 6$, and $m_s^t = 0$ otherwise.

3. $A = B = 2, C = 4, D = 1,$
   and $m_0^1 = 1, m_s^t = 0$ otherwise.

4. $A = 10, B = 1, C = 5, D = 1,$
   and $m_0^1 = 1, m_s^t = 0$ otherwise.