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Economics 614: Macroeconomics II

Spring 2004

Cornell University

Problem Set #5

Due: Friday, February 27

1 Overlapping Generations:

2-period lives.

1 commodity per period, $\ell = 1$.

Stationary endowments:

$$\begin{aligned}\omega_0^1 &= B > 0 \text{ for } t = 0 \\ (\omega_t^t, \omega_t^{t+1}) &= (A, B) > 0 \text{ for } t = 1, 2, \dots\end{aligned}$$

Stationary preferences:

$$\begin{aligned}u_0(x_0^1) &= D \ln x_0^1 \text{ for } t = 0 \\ u_t(x_t^t, x_t^{t+1}) &= C \ln x_t^t + D \ln x_t^{t+1} \text{ for } t = 1, 2, \dots\end{aligned}$$

Passive fiscal policy:

$$m_0^1 = 1 \quad m_t^s = 0 \text{ otherwise}$$

Goods price of money is $p^m \geq 0$.

Precisely plot (use graph paper if necessary) the offer curve in excess demand space $(x_t^t - \omega_t^t, x_t^{t+1} - \omega_t^{t+1})$ for Mr. $t \geq 1$. Plot the reflected offer curve, and analyze the global dynamics for each of the following cases:

- (a) $A = 1, B = 1, C = 2, D = 1$
- (b) $A = 1, B = 1, C = 1, D = 5$
- (c) $A = 10, B = 1, C = 1, D = 1$
- (d) $A = 1, B = 9, C = 1, D = 1$

Is there a pattern? Can you guess (or derive) the conditions for a "Samuelson" versus a "classical" economy from the above?

Let $m_0^1 = -1$ (negative money). Redo all the exercises above. Is there a pattern? What happens to the Samuelson economy when going from positive money to negative money? The classical economy? [Hint: Be sure to plot the **full** reflected offer curve.]