Monetary Economics
Workshop V

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1. Consider the following log-linear model:

$$y_t = y^* + (E_t y_{t+1} - y^*) - \phi (R_t - E_t \pi_{t+1}) + \epsilon_{1,t} \tag{1}$$

$$y_t = y^* + \beta (\pi_t - E_{t-1} \pi_t) + \epsilon_{2,t} \tag{2}$$

$$R_t = \mu_1 \pi_t + \mu_2 (y_t - y^*) \tag{3}$$

   Where R is the nominal interest rate and $\epsilon_{1,t}$ and $\epsilon_{2,t}$ represent white noise processes. The first equation can be described as dynamic IS, the second is a Phillips curve and the third describes monetary policy via a simple interest rate rule.

   - In what ways is the Phillips curve above different from the New Classical Phillips curve?
   - Solve for inflation and output and briefly comment on your results.
   - What do you think will be the consequences for inflation and output of large values in μ_1?

2. Consider the following log-linear model

$$m_t - p_t = -\alpha (E_t p_{t+1} - p_t)$$

$$m_t = \mu_0 + \mu_1 m_{t-1} + \varepsilon_t$$

   Where m_t, p_t denote the quantity of money and the price level, respectively.

   - Solve for the equilibrium path for the price level.
   - What is the impact on the price level of a money supply shock?
   - What do you think will be the consequences for prices and output of large values in μ_1?
   - Compare your results with those in Cagan.mod. Do they coincide?