

## Expectations and the Lucas Critique: Problems

Recall the model from class:

$$\tilde{Y}_t = -c(i_t - E_{t-1}[i_t]) \quad (1)$$

$$i_t = n + m\tilde{Y}_t \quad (2)$$

1. Suppose that agents form expectations using  $E_{t-1}[i_t] = n + m\tilde{Y}_{t-1}$ . How does this affect the ability of the Central bank to influence output in the long run?
2. Now suppose that agents form naive expectations so that  $E_{t-1}[i_t] = 0$ . Can the Central bank keep output above its natural rate?
3. True or False? Rational expectations are the best way to model the formation of expectations.
4. Suppose that the Fed uses the following policy rule:  $i_t = \bar{\pi} + m\pi_{t-1}$ . What is the rational expectation of  $i_{t+1}$  formed in period  $t$ ?
5. Why are rational expectations called “rational.”
6. Provide an example of the Lucas Critique not discussed in class.