231025 – A Monetary Policy Rule and the AD Curve

Assume the central bank follows a monetary policy rule:

$$R_t - \bar{r} = \bar{m}(\pi_t - \bar{\pi}) + \bar{\beta}\tilde{Y}_t$$

$\bar{m}$:	$\bar{\pi}$:	$\bar{\beta}$:

Taylor rule: $\bar{m}$ = _____ $\bar{\beta}$ = _____ $\bar{\pi}$ = _____ $\bar{r}$=_____

$$i_t = \bar{r} + \pi_t + \bar{m}(\pi_t - \bar{\pi}) + \bar{\beta}\tilde{Y}_t$$

Find the AD curve by combining the monetary policy rule with the IS curve

$$\tilde{Y}_t = \frac{1}{1 + \bar{b}\bar{\beta}}\bar{a} - \frac{\bar{b}\bar{m}}{1 + \bar{b}\bar{\beta}}(\pi_t - \bar{\pi})$$

The AS curve comes from the Phillips Curve with shocks

$$\Delta\pi = \bar{\nu}\tilde{Y}_t$$
$$\Delta\pi = \bar{\nu}\tilde{Y}_t + \bar{o}_t$$
$$\pi_t = \pi_{t-1} + \bar{\nu}\tilde{Y}_t + \bar{o}_t$$

231025 – Using the AS/AD Model

In the steady state, $\pi_t = \bar{\pi}$

During an oil shock (increase in $\bar{o}_t$):

- AS shifts left
- AS shifts slowly back to the right as the economy cools

During an AD shock (increase in AD):

- AD shifts right and stays there
- AS shifts left
- After a few shifts, π stays high at $\tilde{Y} = 0$
- Eventually the AD shock wears off, AD curve shifts back to its starting point
- Recession and high inflation until AS shifts right

Usually a counterclockwise pattern in output deviations and inflation

Modern MP:

- Rules v Discretion
  - Rules might make inflation more strong. Why?
  - Or rules can weaken inflation. Why?

Rational Expectation: