1 Review

Mechanism: In the dynamic New Keysesian Model, economy will go back to the medium-run equilibrium through the self-correcting mechanism.
Graph: AS curve shifts in the direction that bring the economy back to the medium-run equilibrium

2 Optimal Monetary Policy

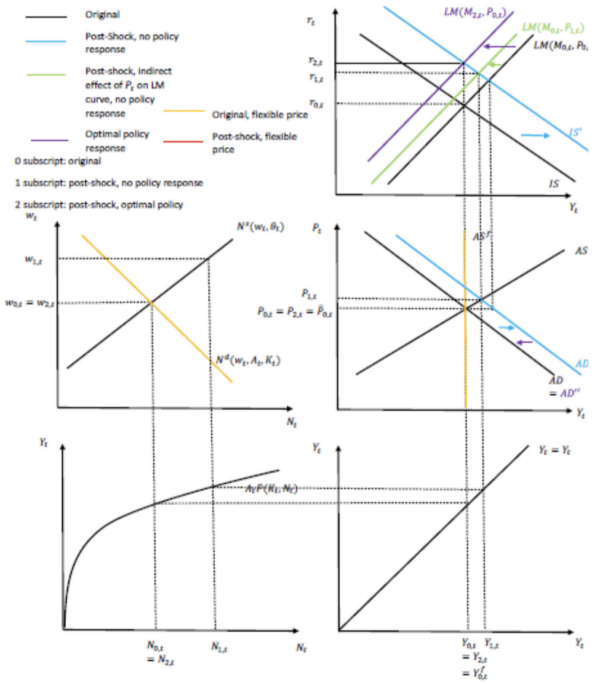
- Goal: Bring the economy back to the medium-run equilibrium($Y_t = Y_t^f$)
- Shift the AD curve in the direction that bring the economy back to the medium-run equilibrium
- How: Adjust the money supply $M^s \rightarrow$ Shift all the LM curve $\rightarrow$ Shift the AD curve $\rightarrow$ Brings the economy back to the medium-run equilibrium($Y_t = Y_t^f$)

2.1 IS Shock

An IS shock causes the IS curve to shift either left or right. Suppose the IS curve shifts to the right:

- The AD curve shifts to the right.
- Output Y_t and the price level P_t increase (as determined by the intersection of the AD and AS curves).
- As P_t rises, the LM curve shifts slightly to the left (from one LM curve to another).
- **At this point, output exceeds potential output. To bring the economy back to the medium-run equilibrium, we want the AD curve to shift left so that the intersection of the AD and AS curves yields output equal to potential output.**
- To achieve this, decrease the money supply M^s, which shifts all LM curves to the left.
- Then the AD curve shifts left. Output and the price level return to their original levels.

Figure 28.2: Optimal Monetary Response to Positive IS Shock

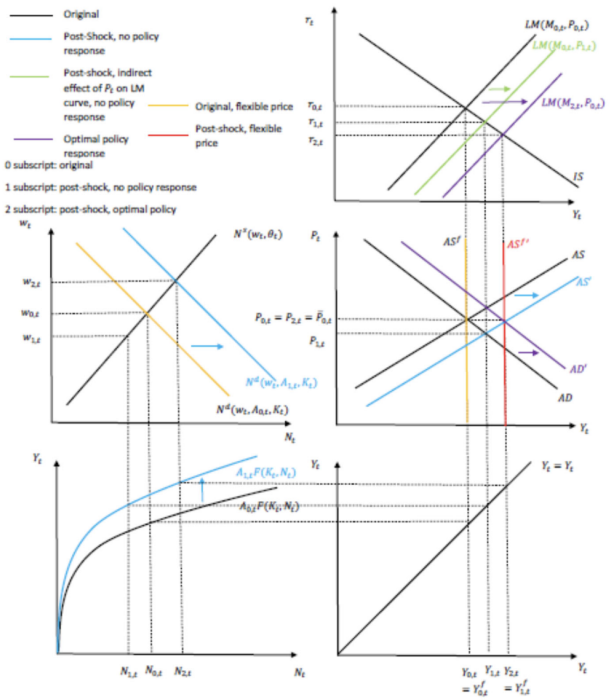


2.2 Increase in A_t

An increase in productivity A_t:

- The labor supply curve N^s shifts to the right, and the production function shifts upward, leading to a higher potential output. As a result, the full-employment AS curve (AS^f) shifts to the right.
- The intersection of the AS curve and AS^f remains at the sticky price level $\bar{P}$ and the new, higher potential output. Therefore, the AS curve also shifts to the right.
- Output Y_t increases, and the price level P_t decreases (as determined by the intersection of the AD and AS curves).
- As P_t decreases, the LM curve shifts slightly to the right (from one LM curve to another).
- **At this point, output is below the new potential output. To go back to medium-run equilibrium, we want the AD curve to shift right so that the intersection of the AD and AS curves yields output equal to potential output.**
- To achieve this, increase the money supply M^s, which shifts all LM curves to the right.
- As a result, the AD curve shifts to the right. Output and the price level are at the medium run equilibrium level.

Figure 28.3: Optimal Monetary Response to Increase in A_t

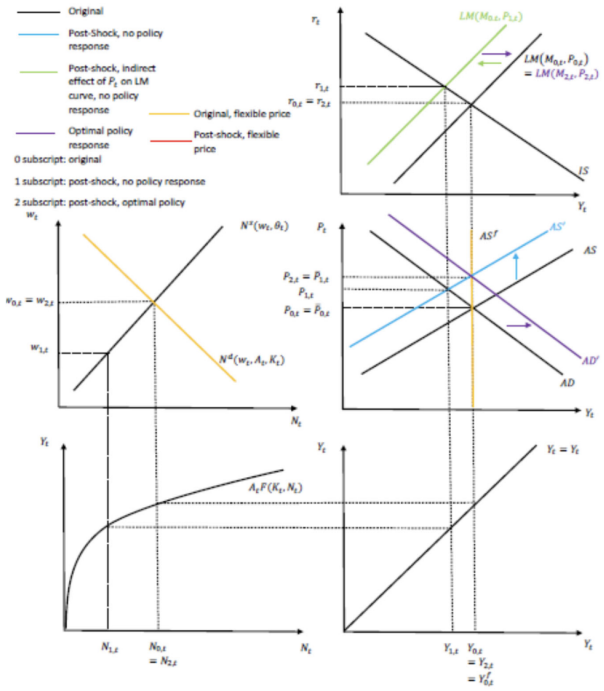


2.3 Increase in $\bar{P}_t$

An increase in the sticky price P_t:

- The intersection of the AS curve and AS^f is always at the sticky price level $\bar{P}$ and the potential output. $\bar{P}_t$ goes up, then AS curve shifts left(up)
- Output Y_t decreases, and the price level P_t increases (as determined by the intersection of the AD and AS curves).
- As P_t increases, the LM curve shifts slightly to the left (from one LM curve to another).
- **At this point, output is below the new potential output. To go back to medium-run equilibrium, we want the AD curve to shift right so that the intersection of the AD and AS curves yields output equal to potential output.**
- To achieve this, increase the money supply M^s, which shifts all LM curves to the right.
- As a result, the AD curve shifts to the right. Ouput returns to the original, potential level with a higher price.

Figure 28.4: Optimal Monetary Response to Increase in $\bar{P}_t$



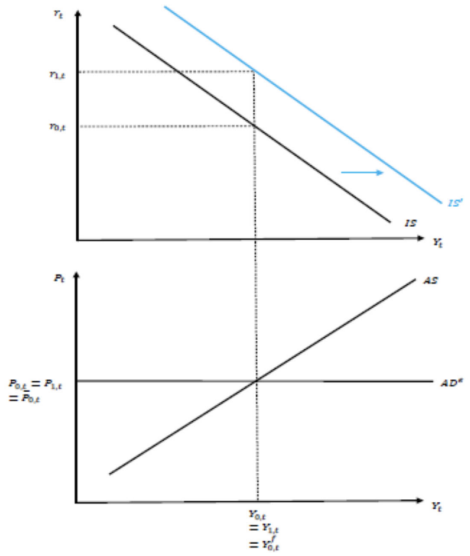
3 Strict Price Policy

- Goal: Price stability. In this case, the effective AD curve is flat.
- How: Adjust the real interest rate so that it equals the real rate implied by the IS curve at the given output. Output is determined by the intersection of the flat AD curve and the upward-sloping AS curve.

3.1 IS Shock

- A rightward shift of the IS curve requires a higher real interest rate to maintain output at the potential level.

Figure 28.6: A Strict Inflation (Price Level) Target: Response to Positive IS Shock



3.2 Positive Supply Shock

- A rightward shift of the AS curve requires a lower real interest rate to maintain output at the (new) potential level.

Figure 28.7: A Strict Inflation (Price Level) Target: Response to $\uparrow A_t$ or $\downarrow \theta_t$

