

## Lecture 19

### Chapter 19: Open Economy Macro: Flexible Exchange Rates

- Supply and demand for a currency
- Effects on supply and demand for a currency: PPP and relative interest rates
- Effects of exchange rates on the economy: GDP, inflation, current account (J curve)
- AS/AD model with flexible exchange rates

- $e = lc/\$$ —how much local currency one dollar can buy
- $e$  increasing is a depreciation of  $lc$ , appreciation of  $\$$ .
- $e$  decreasing is an appreciation of  $lc$ , depreciation of  $\$$ .

- Japan = <sup>106.0</sup> ~~106.0~~      113.6
- Euroland = 0.91      0.86
- England = 0.80      0.76  
                   ↑                    ↑  
                   NOV. 2016      NOV. 2017

## AS/AD MODEL WITH FLEXIBLE EX-CHANGE RATES

- $Y_d \equiv Y - T$  Definition
- $C = a + bY_d$  Behavioral (households)
- $I = d - e \cdot r$  Behavioral (firms)
- $Y = C + I + G + EX - IM$  Equilibrium condition
- $TAX = tY$  Behavioral (government)
- $T \equiv TAX - TR$  Definition
- $P = \delta + \epsilon Y + \zeta PM$  Behavioral (AS curve, firms)
- $r = \alpha Y + \beta P + \gamma Z$  Behavioral (Fed rule)

- $IM = \theta + mY + \psi \frac{P}{PM}$  Import demand  
(households, firms, government)
- $PM \equiv \frac{1}{e}P^*$  Definition
- $EX \equiv \frac{1}{e}IM^*$  Definition
- $e = k_0 + k_1 \frac{r}{r^*} + k_2 \frac{P^*}{P}$  Behavioral (market determined exchange rate)

Exogenous variables are  $G, TR, t, Z, G^*, TR^*, t^*, Z^*$ .

$$PPP: P^* = eP \quad (k = \frac{k}{\$} \cdot \$)$$

$$r \text{ vs } r^*: \frac{r}{r^*} \uparrow \rightarrow e \uparrow \quad (\text{depreciation of } \text{€})$$

AS/AD analysis:

$$e \downarrow \rightarrow PM \uparrow \rightarrow P \uparrow$$

$$\rightarrow IM \downarrow \rightarrow Y \uparrow$$

$$\rightarrow PM^* \downarrow \rightarrow EX \uparrow \rightarrow Y \uparrow$$

↑  
probably

$$[PM^* = e \cdot P]$$

↓ ↑

Monetary policy

$$\text{say } r \downarrow \rightarrow e \downarrow \rightarrow Y \uparrow \rightarrow P \uparrow$$

$$\rightarrow P \uparrow$$

e helps

Fiscal policy

$$\text{say } G \uparrow \rightarrow r \uparrow \rightarrow e \uparrow \rightarrow Y \downarrow \rightarrow P \downarrow$$

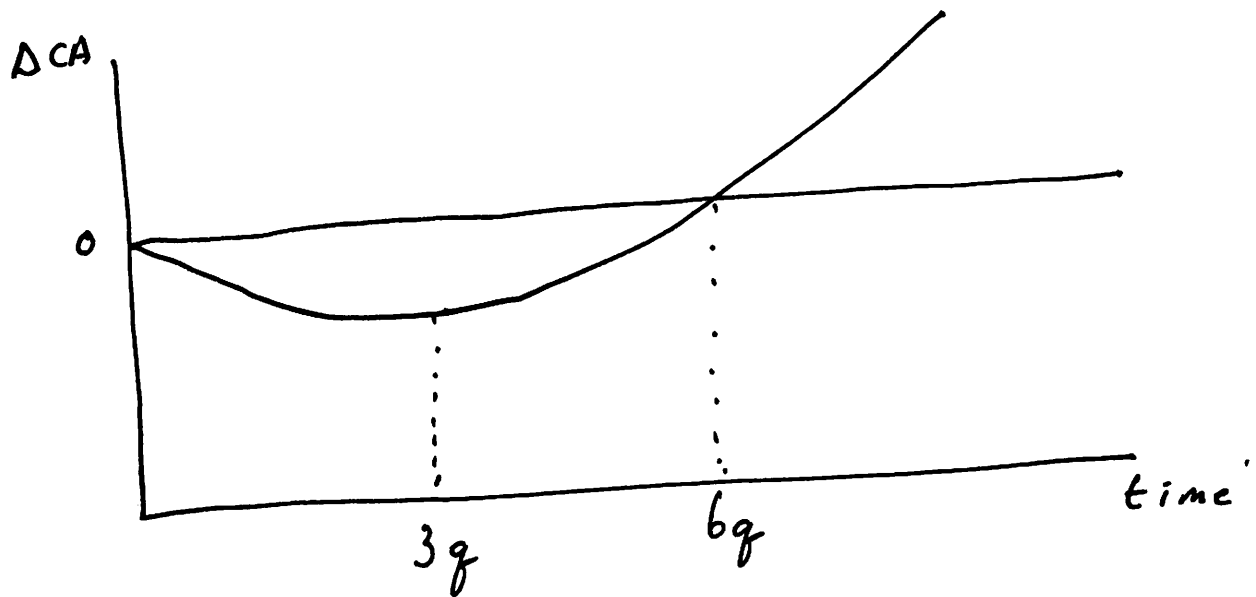
$$\rightarrow P \downarrow$$

e hurts

J-curve

$$CA = P \cdot EX - PM \cdot IM$$

$$PM = \frac{1}{e} P^*$$



$e \downarrow$

$$CA = \overset{\oplus}{P} \cdot \overset{\oplus}{EX} - \overset{\oplus}{PM} \cdot \overset{\ominus}{IM}$$

↑  
largest in  
short run