Lecture 18

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 = 106.0

• Euroland = 0.91

• England = 0.80
AS/AD MODEL WITH FLEXIBLE EXCHANGE 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)
• \( IM = \theta + mY + \psi \frac{P}{PM} \) \hspace{1cm} \text{Import demand (households, firms, government)}

• \( PM \equiv \frac{1}{e} P^* \) \hspace{1cm} \text{Definition}

• \( EX \equiv \frac{1}{e} IM^* \) \hspace{1cm} \text{Definition}

• \( e = k_0 + k_1 \frac{r}{r^*} + k_2 \frac{P^*}{P} \) \hspace{1cm} \text{Behavioral (market determined exchange rate)}

Exogenous variables are \( G, TR, t, Z, G^*, TR^*, t^*, Z^* \).
\[ PPP : \quad \rho^* = e \rho \quad (\lambda_c = \frac{\lambda_c}{\lambda}) \]

\[ r \text{ vs } r^* : \quad \frac{r}{r^*} \uparrow \rightarrow e \uparrow \quad (\text{depreciation of } lc) \]

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**AS/AD analysis:**

\[ e \downarrow \rightarrow \rho M \uparrow \rightarrow \rho \uparrow \]

\[ \rightarrow \text{IM} \downarrow \rightarrow Y \uparrow \]

\[ \rightarrow \rho M^* \downarrow \rightarrow EX \uparrow \rightarrow Y \uparrow \]

\[ \left[ \rho M^* = e \cdot \rho \right] \quad \downarrow \uparrow \left( \text{probably} \right) \]

**Monetary policy**

say \( r \downarrow \rightarrow e \downarrow \rightarrow Y \uparrow \rightarrow \rho \uparrow \)

\[ e \quad \underline{\text{helps}} \]

**Fiscal policy**

say \( G \uparrow \rightarrow r \uparrow \rightarrow e \uparrow \rightarrow Y \downarrow \rightarrow \rho \downarrow \)

\[ \underline{e \quad \text{hurts}} \]
\( \Delta CA = P \cdot EX - PM \cdot IM \)

\( PM = \frac{1}{2} P^* \)

The graph shows a J-curve, with \( 3q \) and \( 6q \) indicating points on the time axis.

The equation for \( CA \) is repeated with arrows indicating changes in currency and the note that the largest impact occurs in the short run.