

Outline

Real Exchange Rate

Open Economy Macro

→ Temporary, Short run shocks.
 E^e Not changed P fixed.

→ IS-LM model.

(Mundell-Fleming Model).
→ Experiment

High G , Low M

IS-LM { Early 80's dollar appreciated
US current account went into deficit.
US economy strong
tight money
loose G .

Beggar - thy - neighbor policy.

Real exchange rate

$$E = \frac{\text{domestic currency}}{\text{foreign currency.}}$$

Appreciation: $E \downarrow$

depreciation: $E \uparrow$

$E \sim$ quantity of domestic goods you give up to acquire one unit of foreign goods.

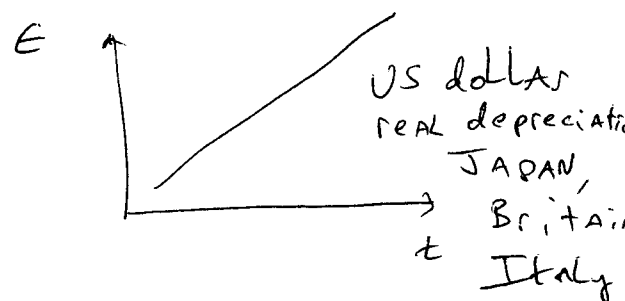
Unit of foreign goods

P^* foreign currency.

EP^* domestic currency.

$$\frac{EP^*}{P} \sim \text{domestic goods}$$

$$\approx E$$



$$\overset{\text{OPEN ECONOMY}}{Z} = C^P + I^P + S^P + \underbrace{X^P - \pi^P}_{NX}$$

$$NX = NX(Y, Y^*, \epsilon)$$

- + +

$$NX = X - M$$

$$C^{\text{foreign}} + C^{\text{domestic}} = C = C_0 + c_1(Y - T)$$

$$M = C^{\text{foreign}} + I^{\text{foreign}} + G^{\text{foreign}}$$

US historical data: Y high tend to see NX low.

$$\epsilon \uparrow = \frac{EP^*}{P} \uparrow$$

$\Rightarrow$ foreign goods more expensive ~~than domestic~~ relative to domestic goods.

$$X(\epsilon)_+, M(\epsilon)_-$$

(Marshall-Lerner conditions)
 $\nwarrow$ not something we will discuss)

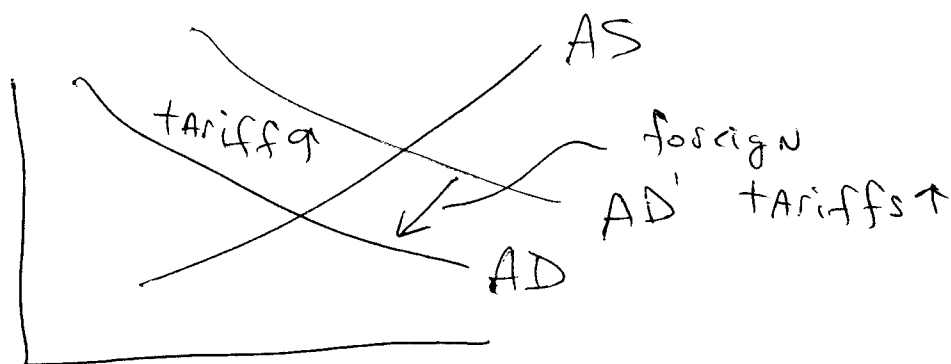
Open Economy Macro

Importance, in short run, of demand, for Y .

Medium run, Demand has zero importance for Y , does have impact on the composition Y .

Long Run: composition of spending matters for Y because I matters for the resources that are available for production in the future.

Worst episode in US history.
Great Depression demand,



trade in the 30s stopped,

Short run model,
 P fixed

temporary
 E^e

$$I^{\text{planned}} = \bar{I} - b i$$

$$\underbrace{C_0 + C_1 (Y - T)}_{\uparrow}$$

$C_0 \downarrow$ ~ pessimism of household.

$\bar{L}$

~ expectation of stock market
collapse could shift up.

Endogenous variables, Y, i, E .

Goods market: IS curve

Money market: $\frac{M^s}{P} = L(i) Y$

UIP : $i = \cancel{i^*} i^* + \frac{E^e}{E} - 1$

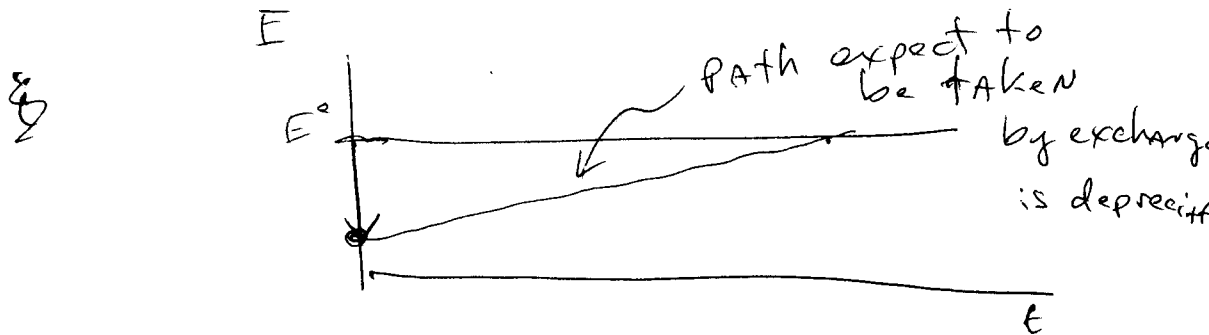
$$Z = C_0 + C_1(Y - T) + \bar{I} - bi + \bar{G} + NX(Y, Y^*, \epsilon).$$

$$\epsilon = \frac{EP^*}{P}$$

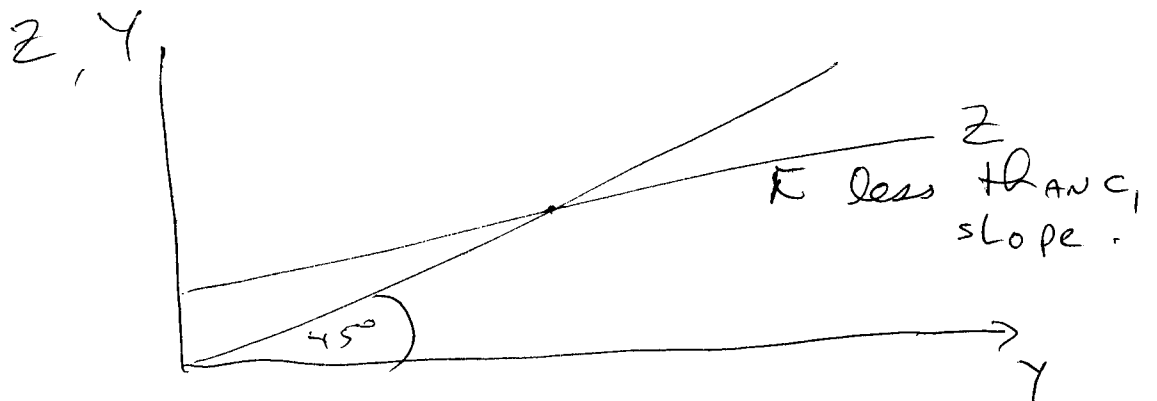
$$i = i^* + \frac{E^e}{E} - 1$$

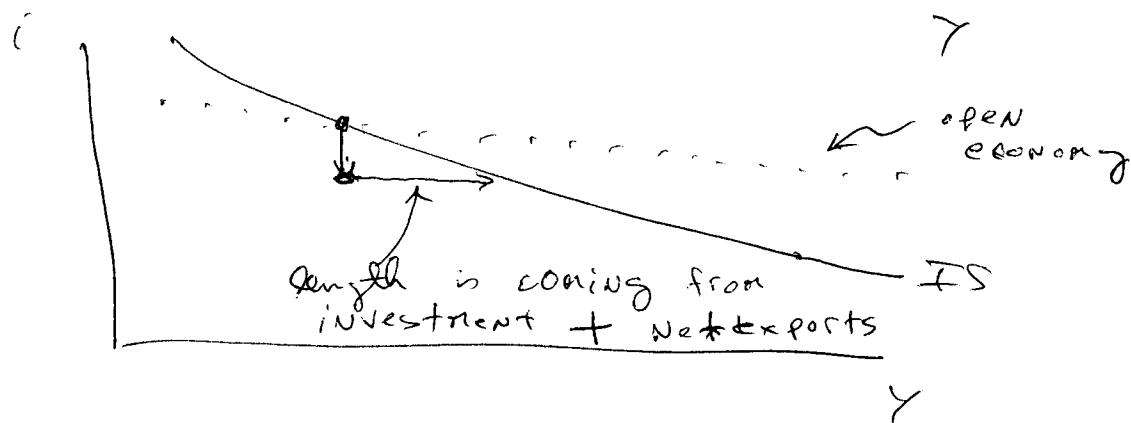
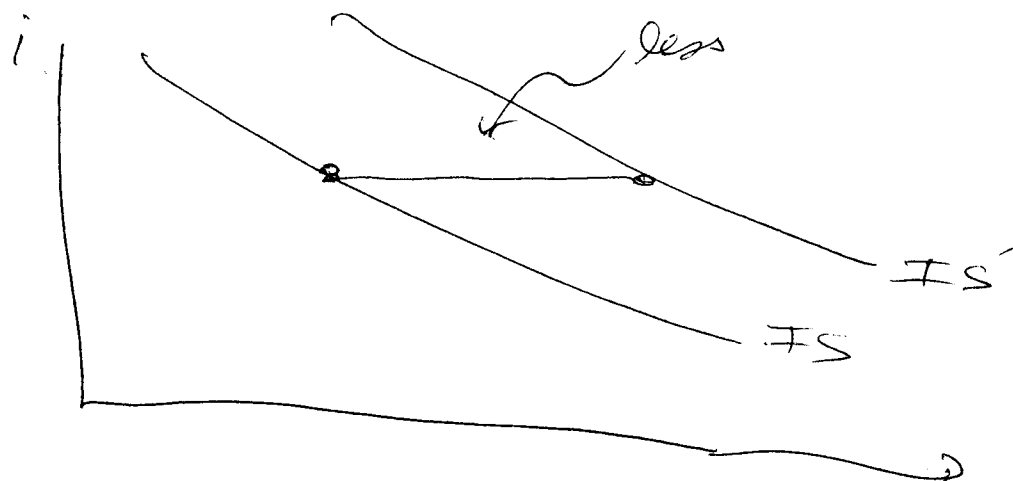
$$\cancel{i = i^* + 1} \quad i - i^* + 1 = \frac{E^e}{E}$$

$$E = \frac{E^e}{i - i^* + 1}$$



$$Z = C_0 + C_1(Y - T) + \bar{I} - bi + \bar{G} + NX\left(Y, Y^*, \frac{E^e P^*}{P(i - i^* + 1)}\right)$$





$$Z = C_0 + c_1 (Y - T) + \bar{I} - bi + NX(Y, Y^*, \frac{P^* E^e}{P(i - i^* + 1)})$$

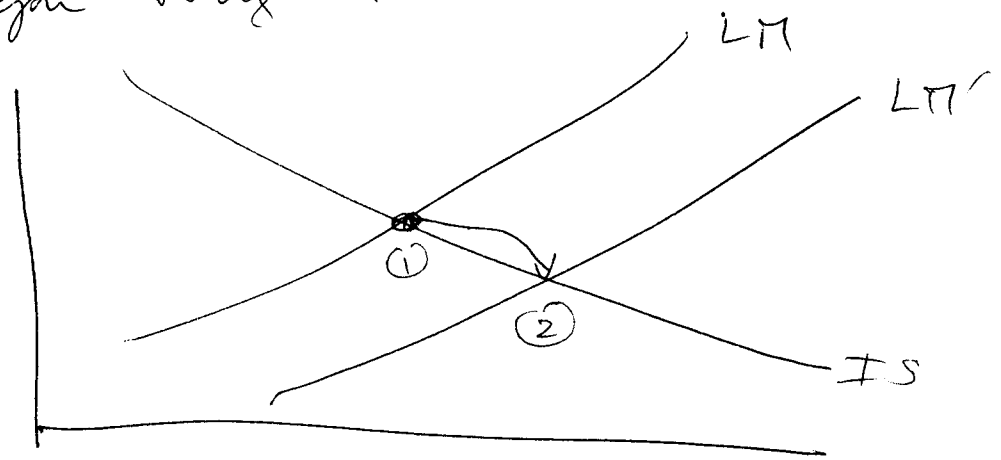
$i \downarrow$ ~~$\bar{I}$~~ ~~PLANNED~~ $\bar{I}_{\text{PLANNED}} \uparrow$

$E \uparrow$ (because asset traders want to get out of US)

$$E = \frac{E P^*}{P}$$

$NX \uparrow$

Beggar Nigher



lower $i \Rightarrow E \uparrow$ means NX higher.