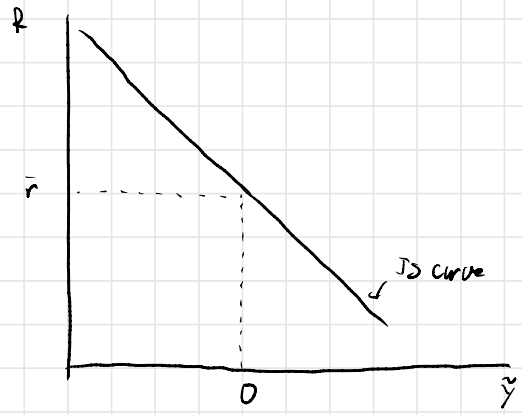
March 20

IS Curve: $\tilde{y} = \bar{a} - \bar{b}(R_t - \bar{r})$

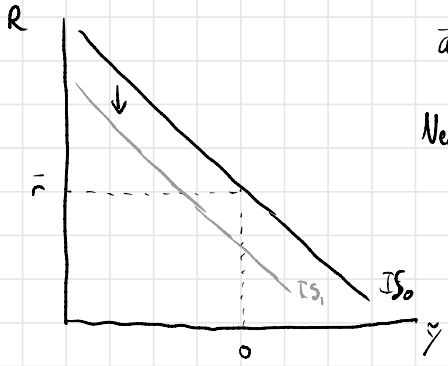
$R \uparrow \rightarrow Y_d$



Assume $\bar{a} = 0$ at long run equilibrium, and $R_t = \bar{r}$

Example 1:

- consumers stop spending so much

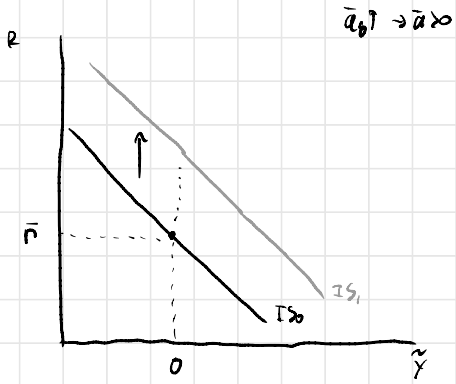


$\bar{a}_c \downarrow \rightarrow \bar{a} < 0$

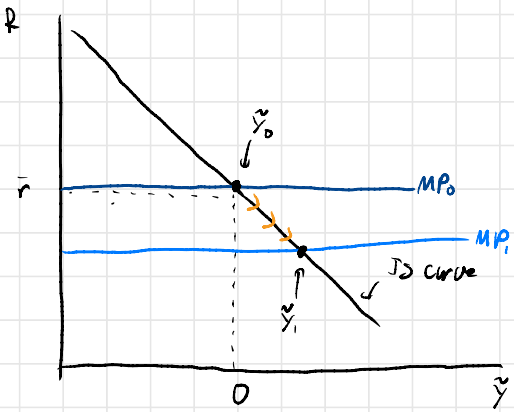
Negative Aggregate Demand Shock

Example 2:

- Govt. Stimulus program



Monetary Policy Curve:



Central bank selects a lower interest rate.

Countercyclical policy: $\bar{a} \downarrow \rightarrow R \downarrow \rightarrow \tilde{Y}$ returns to LRE

$\bar{a} \uparrow \rightarrow R \uparrow \rightarrow \tilde{Y}$ returns to LRE

Multiplier effect:

- govt. stimulus → increased consumption → increased output

Incorporating the multiplier effect:

$$\frac{C_t}{\bar{Y}_t} = \bar{a}_c + \bar{x}\,\tilde{Y}_t$$

$$Y = C + I + G + EX - IM$$

$$\frac{Y_t}{\bar{Y}_t} = \frac{C_t}{\bar{Y}_t} + \frac{I_t}{\bar{Y}_t} + \frac{G_t}{\bar{Y}_t} + \frac{EX_t}{\bar{Y}_t} - \frac{IM_t}{\bar{Y}_t}$$

$$= \bar{a}_c + \bar{x}\,\tilde{Y}_t + \bar{a}_i - \bar{b}(R_t - \bar{r}) + \bar{a}_g + \bar{a}_{ex} - \bar{a}_{im}$$

$$\tilde{Y}_t = (\bar{a}_c + \bar{a}_i + \bar{a}_g + \bar{a}_{ex} - \bar{a}_{im} - 1) + \bar{x}\,\tilde{Y}_t - \bar{b}(R_t - \bar{r})$$

$$\tilde{Y}_t(1 - \bar{x}) = \bar{a} - \bar{b}(R_t - \bar{r})$$

$$\tilde{Y}_t = \frac{\bar{a} - \bar{b}(R_t - \bar{r})}{(1 - \bar{x})}$$