

② Long run:

$$\bar{Y}_t = \bar{S} A K_t^{1/3} \bar{L}^{2/3}$$

or an improvement in

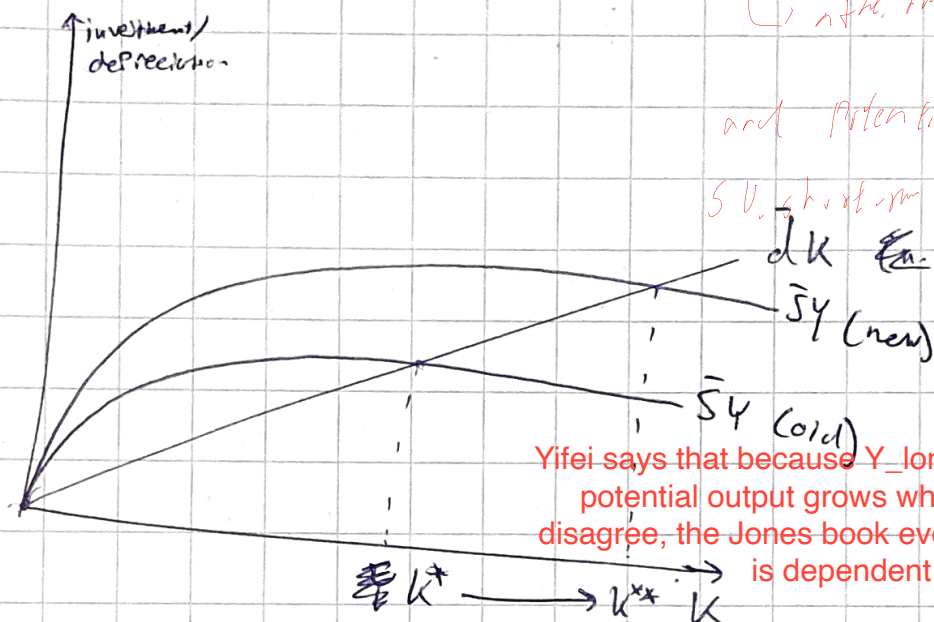
So if A rises because

in ~~the~~ technology, the investment curve shifts up: $Y = \bar{S} A K_t^{1/3} \bar{L}^{2/3}$

\bar{L} is the tech. level

and potential output

So short run output remains in



Yifei says that because $Y_{long_run} = A K^a L^{1-a}$, the potential output grows while capital grows. But I disagree, the Jones book even talks about this, that Y is dependent on $A^{3/2}$.

So capital ~~increases~~ starts increasing. Simultaneously, output immediately increases as A rises:

$$Y_t = A K_t^{1/3} \bar{L}^{2/3}$$

But because capital also rises, the long term effect will be an even bigger effect:

$$Y^* = \left(\frac{\bar{S}}{\delta}\right)^{1/2} A^{3/2} \bar{L}$$

So if A increases, Y output increases by $3/2$ times by $A^{3/2}$.

Therefore Y_t would initially increase (Production would be lower than

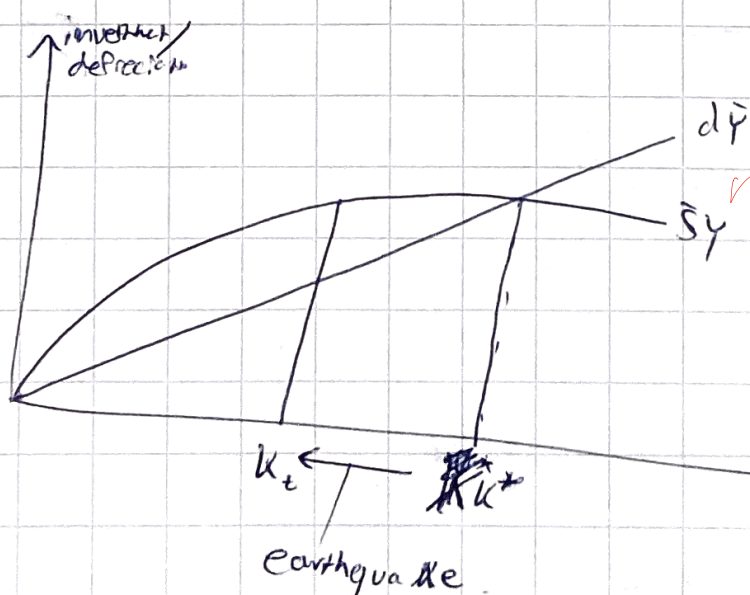
Potential Production) But it would reduce as more money would be invested in Capital:

$$\dot{Y}_t = Y_{new}^* - Y_t$$

↑
this increases only by A
(at least in the short term)
↑
this immediately increases by $A^{3/2}$

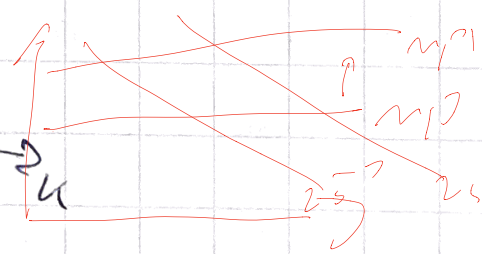
2. It would cause Capital K to fall (as it becomes damaged). the immediate effects will be that

Y_t falls rapidly which will cause \dot{Y}_t to become negative:



↳ if this is great, \dot{Y}_t

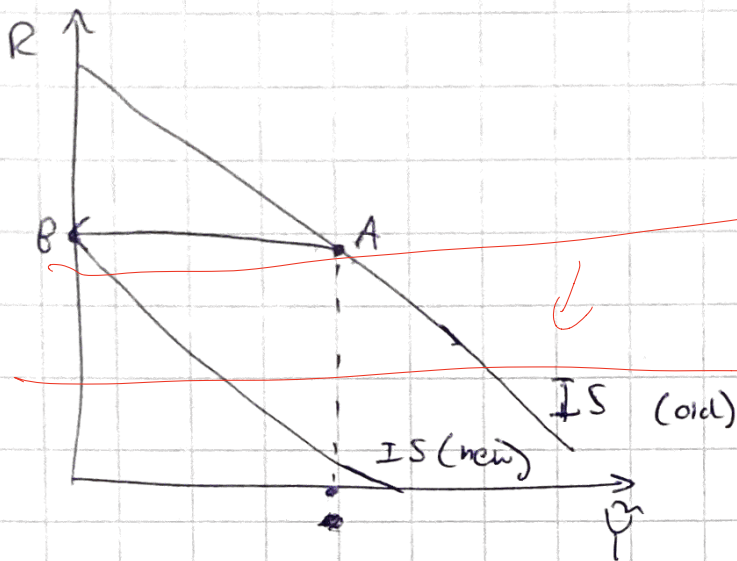
may also wish to do it



However, over the long run, more would be invested and \dot{Y}_t would ~~decrease~~ return back up.

Draw the IS-curve and argue that the government would reduce interest (IS-MP)

3. Export will reduce so \bar{a}_{ex} will fall so \bar{a} in $\bar{Y} = \bar{a} - b(R_t - \bar{r})$ will fall so the IS curve shifts downwards:



So output will fall ~~back~~ as the economy goes from A to B. (\bar{Y} will fall).

For bonus mark:

(Japanese lost decade) when your interest rate goes to 0, people are indifferent to holding on to money or borrowing/investing. So it is very dangerous to go so low. And if it goes too low then people will just hoard cash/buy goats.