

a) $y_t = k_t^\alpha$, $\alpha = 1$.

$\Rightarrow y_t = k_t$: With $\alpha = 1$, output is linear in capital which means constant returns to capital.
 $i = \delta k$

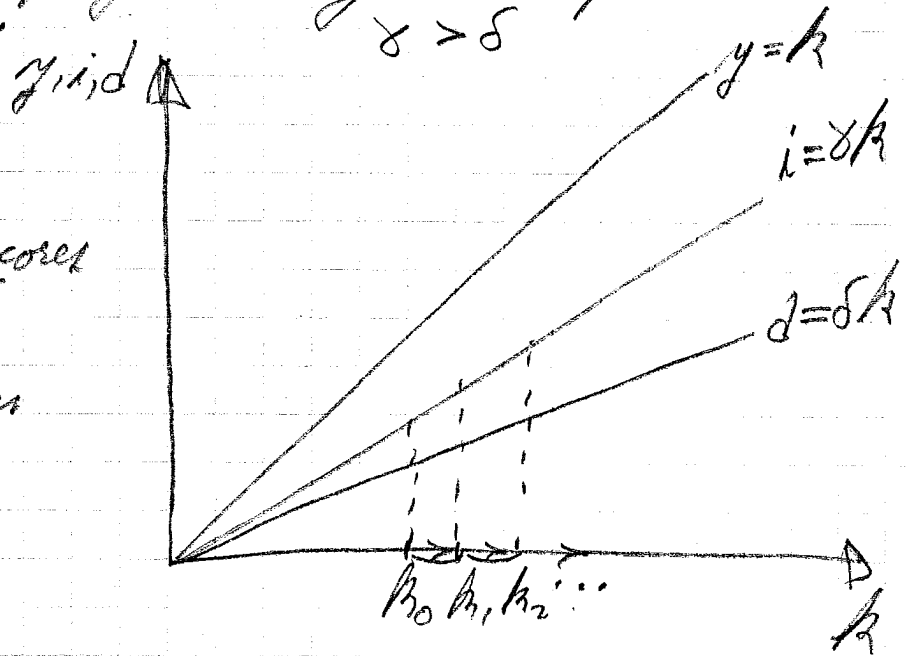
$\Rightarrow \Delta k_t = \delta y_t - \delta k_t = (\delta - \delta) k_t$

We note that $\Delta k_t > 0$ if $\delta > \delta$ and $\Delta k_t < 0$ if $\delta < \delta$, independently of the value of k_t (assuming $k_t > 0$).

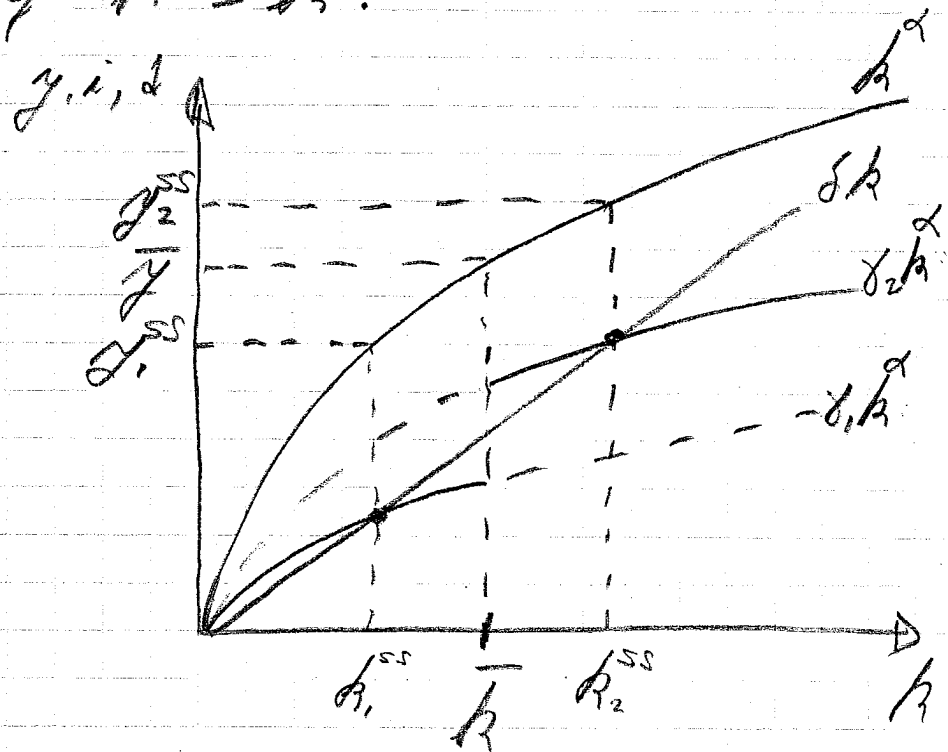
Hence, $\delta > \delta$ implies that the economy will never stop growing, as represented in the graphic.

$i_t > \delta$ for all k_t

This result underscores the importance of the presence of decreasing returns to capital.



b) $i = \delta_1 k^\alpha$ if $k < \bar{k}$ where $\bar{y} = \bar{k}^\alpha$ (2)
 $i = \delta_2 k^\alpha$ if $k \geq \bar{k}$.



We note that there are two steady-state equilibria at which investment equals depreciation. One with a low income level y_1^{SS} and one with a high income level y_2^{SS} . This implies that countries that start with a low k remain poor and countries that start with a high k remain rich.

This result is referred to as a "DEVELOPMENT TRAP".

c) Various studies have suggested that development aid is not effective in making poor countries richer. For some, this indicates that the money is being wasted and that the proposition of increasing development aid will lead to more waste of money.

Others used the development trap concept to argue that past efforts were not effective because they did not raise the capital stock above the minimum threshold K . Thus the argument for a major increase in development aid.