

14.05 PROBLEM SET 1

SUGGESTED SOLUTIONS

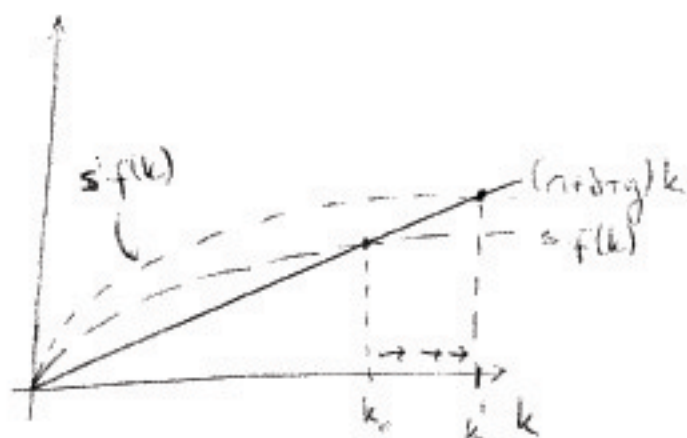
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Question 1 Comparative Statics in the Solow model

(a) The savings rate 's' goes up:

The "actual investment" line moves



$$s' > s$$

With a higher savings rate more resources are devoted to investment in capital \Rightarrow the country can accumulate capital and will start moving to the right (from k_0 to k')

No effect on the "break-even" investment line.

The steady state level of capital increases from k_0 to k' .

(b) The population growth rate goes up (n):

Now, it's the "break-even" investment line the one that moves. We are looking at $k \equiv \frac{K}{AL}$, in this exercise we face a situation where L grows faster \Rightarrow more resources are devoted to just compensate for this higher growth rate \Rightarrow out of $s \cdot f(k)$, a larger fraction does not contribute to $\uparrow k$, but just to avoid k from falling because of the higher growth of L .