Yesterday one of you asked for the intuitive link between α and the amount of time to reach a certain level of capital. I updated the excel model, available [here](https://1drv.ms/x/s!AojYP03bHwCQjrw7u9W4QXVg5-K11w?e=bwhULQ) so you can see the mechanics. As I mentioned, changing α leads to a higher k\*. You can compare the two cases:

Here α = 0.2 and the time to go halfway between k\_0 and k\* is around 9.6 periods:

A graph with a blue line

Description automatically generated

If I change the model so that α = 0.3, the time to go halfway between k\_0 and k\* is around 11 periods:

A blue line with white text

Description automatically generated

Notice in the second figure that k\* is much higher. Since production is given by

The marginal product of capital is

Taking initial capital k\_0 = 2 and α = 0.2

Taking initial capital k\_0 = 2 and α = 0.3

This is around 1.6x larger and implies capital grows more quickly when α = 0.3. However, it is easy to see that k\* is more than 2x larger when α = 0.3. Therefore, even if MPK is higher, the target k\* is even further away and it takes more time to converge.

Also, when I was explaining the capital share of income, I put that

It is important to remember that capital gets paid its marginal product

All payments to capital are given by which we see equals some share of total output. All output is paid to the factors of production, so the other part (1 - α) is paid to labor.