

Romer 86 model learning by doing

$$Y_i = F(K_i, AL_i)$$

$$A = K/L$$

$$r = dY_i/dK_i = r(K_i/AL_i) = r(K/AL) = r(1)$$

$$Y/K = F(1,1)$$

$$Y_i = K_i^{\alpha} (AL_i)^{1-\alpha}$$

$$r = \alpha K_i^{\alpha-1} (AL_i)^{1-\alpha} = \alpha (AL_i/K_i)^{1-\alpha} = \alpha (AL/K)^{1-\alpha} = \alpha$$

Solow assumption with $\delta=0$

$$\dot{K} = sY = sF(K,K) = sK F(1,1)$$

$$\dot{K}/K = sF(1,1)$$

$$Y = K F(1,1)$$

$$\dot{Y}/Y = \dot{K}/K = sF(1,1)$$

RCK with $n=0$.

$$\dot{C}_p/C_p = (\alpha-\rho)/\theta = \dot{K}/K$$