

Stylized Facts

1. Y keeps growing at a roughly constant rate
2. Y/K remains roughly constant
3. r remains roughly constant
4. WL/Y remains roughly constant

All surprised economists.

Solow's crazy assumptions

1. Markets clear – there is no unemployment
2. Perfect competition – wage W = marginal product of labour
interest rate r = marginal product of capital
3. All workers identical L is a scalar a number
4. K is a number buildings and equipment are the same
5. The Consumption good and capital good are the same
6. There is exogenous technological progress
7. Technology is not embodied.
8. Labour augmenting

Non crazy assumption

1. Constant returns to scale
2. savings rate S just assumed

Solow Lecture 2

The algebra I did in Word because I don't have a whiteboard or tablet.

$$Y = WL + rK \text{ so}$$

$$y = Y/(AL) = WL/(AL) + rK/(AL) = W/A + rk = w + rk$$

$$k = K/(AL)$$

$$\ln(k) = \ln(K) - \ln(A) - \ln(L)$$

$$\dot{k}/k = \dot{K}/K - \dot{A}/A - \dot{L}/L = (Y - C - \delta K)/K - g - n =$$

$$(Y - C)/K - \delta - g - n$$

$$\dot{k} = (Y - C)k/K - (\delta + g + n)k$$

$$= ((Y - C)K/(AL))/K - (\delta + g + n)k$$

$$= (Y - C)/(AL) - (\delta + g + n)k$$

$$= y - c - (\delta + g + n)k$$