ΔBC : $p_1 dc_1 + p_2 dc_2 = 0$

ΔU $U(c_1+dc_1, c_2+dc_2) - U(c_1, c_2)$

$= u_1 dc_1 + u_2 dc_2 = 0$

$dc_2 = -\frac{p_1}{p_2} dc_1$

$u_1\left(\frac{p_1}{p_2}\right) + u_2\left(-\frac{p_1}{p_2}\right) = 0$

$\frac{u_1}{u_2} = \frac{p_1}{p_2}$

$p_1 \uparrow$ $\frac{mu_1}{mu_2} \uparrow$

Suppos $c_2 = t_1$

$U(c_1, c_2)$

$p_1 c_1 + \cancel{p_2 c_2} = y + w(T - t_2)$

$c_2 = t_2$

$p_1 c_1 + w t_2 c_2 = y + wT$

$\frac{u_1}{u_2} = \frac{p_1}{w}$

Suppose prod fn

$u(c_1, c_2)$ $\quad c_2 = f(t_2)$

$P_1 c_1 = y + w(T - t_2)$ $\quad (t_2 < T)$

$u_1 dc_1 + u_2 dc_2 = 0$

$P_1 dc_1 = -w dt_2$

$dc_2 = f' dt_2$

$P_1 dc_1 = -w\left(\frac{dc_2}{f'}\right)$

$dc_2 = -\frac{P_1 f'}{w} dc_1$

$u_1 + u_2\left(-\frac{P_1 f'}{w}\right) = 0$

$\frac{u_1}{u_2} = \frac{P_1}{w/f'}$

what if $t_2 = T$?

human capital

$u(c_1, c_2)$

$p_1 c_1 + p_2 h = y + w(T(h) - t_2)$

$c_2 = t_2$

$u_1 dc_1 + u_2 dc_2$

$p_1 dc_1 + p_2 dh = y + wT'(h)dh - w dc_2$

$\Rightarrow \quad p_2 = wT'(h)$

$p_1 dc_1 = w dc_2$

$$\frac{u_1}{u_2} = \frac{p_1}{w}$$

two peers

$u(c_1, c_2)$ $\quad t_1 < T, \; t_2 < T$

$$p_1 c_1 = y + w_1(T - t_1) + w_2(T - t_2)$$

$$p_1 dc_1 = -w_1 dt_1 - w dt_2$$

$$dc_2 = dt_1 + dt_2$$

$$p_1 dc_1 = -w_1 dt_1 - w_2(dc_2 - dt_1)$$

$$p_1 dc_1 = -(w_1 - w_2) dt_1 - w_2 dc_2$$