Discrete time $\qquad \beta$ discount

ϕ Bargaining power $\qquad \frac{x(u,v)}{v}$

Steady state

$u \qquad \eta_{\theta,y} \rightarrow$ ELASTICITY OF θ w.r.t. y around S.S.

$\Rightarrow \dfrac{\frac{d\theta}{\theta}}{\frac{dy}{y}} \qquad \dot{u}=0$

$$\cancel{V} = -c + \beta\left[q(\theta) J + (1-q(\theta))\cancel{V}\right] \quad (1)$$

$$J = y - w + \beta\left[s\cancel{V} + (1-s) J\right] \quad (2)$$

Free entry $V=0$

$$J = \frac{c}{\beta q(\theta)}$$

JOB = EXPECTED SEARCH COST

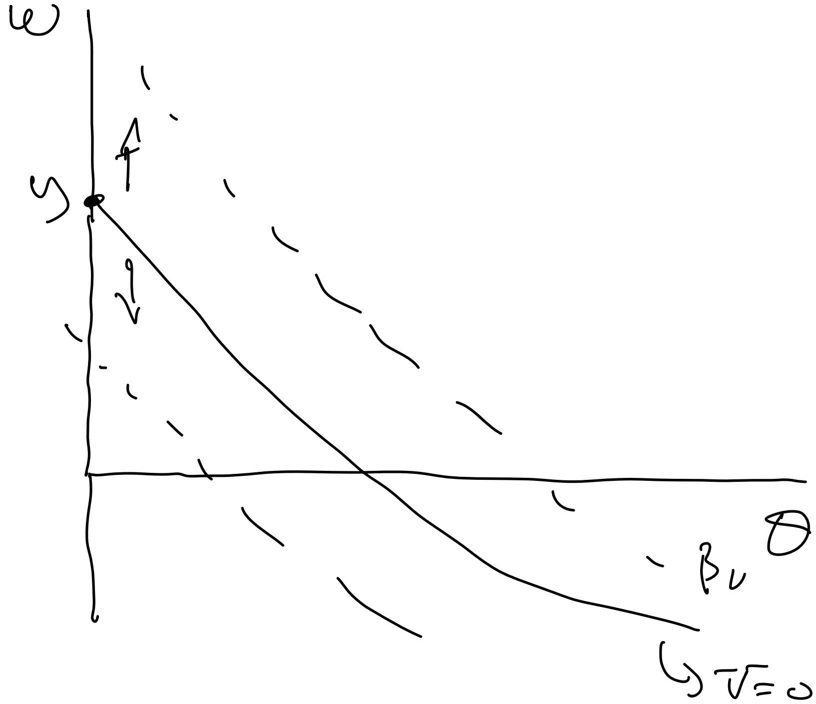
3^{rd}

$$J(1-\beta(1-\delta)) = y - w$$

$$\frac{c}{\beta q(\theta)}(1-\beta(r-\delta)) = y - w$$

$$w = y - \frac{c}{\beta q(\theta)}(1-\beta(1-\delta))$$

$$q'(\theta) < 0$$



what is the wage equation

NASH BARGAINING RULE

WAGE RULE

$4'$

$\bar{w}(1-\beta(1-s)) = w + \beta s \bar{v}$

$$\bar{W} = w + \beta[s\bar{v} \quad + (1-s)\bar{w}] \quad (4)$$

$$\bar{v} = b + \beta[\theta q(\theta)\bar{w} \quad + (1-\theta q(\theta))\bar{v}] \quad (6)$$

$\bar{w} \geq \bar{v}$ $\quad\quad$ $J \geq V$

Surplus Shared $\quad \phi$

$$\bar{w} - \bar{v} = \phi[\underbrace{\bar{w} + J - \bar{v} - \cancel{V}}]$$

$w - v = \phi[\ S\ ]$

$w + J - v$

The actual wage is what?

CLAIM: $\boxed{w = (1-\phi)(1-\beta)v + \phi y}$

$M = J + w$ joint value

$(1-\cancel{\beta(1-\delta)})M = (1-\cancel{\beta(1-\delta)})[\ \cancel{\phi}\ J + w\ ]$

$= \cancel{(1-\beta(1-\delta))}\ \dfrac{[\ y - \cancel{w} + \cancel{w} + \beta S v\ ]}{1-\beta(1-\delta)}$

$$M = \frac{y + \beta s v}{1 - \beta(1-s)}$$

$$S = J + \cancel{y}\,\tilde{w} - v$$

$$S = M - v$$

$$v = b + \cancel{\theta q}\,\beta\left[\theta q(\theta)[\tilde{w}] + (1 - \theta q(\theta))v\right]$$

$$v - \beta v = b + \beta\left[\theta q(\theta)[w - v]\right]$$

$$v(1-\beta) = b + \beta\left[\theta q(\theta)[w - v]\right] \quad (6)$$

$$\tilde{w} - v = \phi S$$

$$V = 0 \qquad J = \frac{c}{\beta q(\theta)}$$

$$S = (1-\phi) S'$$

$$(1-\phi) S' = \frac{c}{\beta q(\theta)}$$

$$S' = \frac{c}{(1-\phi)\beta q(\theta)}$$

$$\bar{v}(1-\beta) = b + \beta\theta q(\theta)\phi S' \qquad 6'$$

$$\bar{v}(1-\beta) = b + \beta\theta \cancel{q(\theta)}\phi \frac{c}{(1-\phi)\beta \cancel{q(\theta)}}$$

$$\bar{v}(1-\beta) = b + \frac{\beta\phi}{1-\phi} c \qquad 10$$

$$s' = \mu - v$$

$$s' = \frac{y + \beta s v}{1 - \beta(1-s)} - v$$

$$s' = \frac{y + \cancel{\beta s v} - v + \beta v - \cancel{\beta s v}}{1 - \beta(1-s)}$$

$$s' = \frac{y - (1-\beta) v}{1 - \beta(1-\beta)}$$

$$J = (1-\phi)\, s$$

$$\frac{y - w}{\cancel{1 - \beta(1-J)}} = (1-\phi)\left[\frac{y - ((1-\beta) v}{\cancel{1 - \beta(1-s)}}\right]$$

J'

$$y - w = (1-\phi) y - (1-\phi)(1-\beta)\bar{v}$$

$$w = (1-\phi)(1-\beta)\bar{v} + \phi y \quad \text{(LAW)}$$

$$(1-\beta)\bar{v} = b + \frac{\phi}{1-\phi} c\theta$$

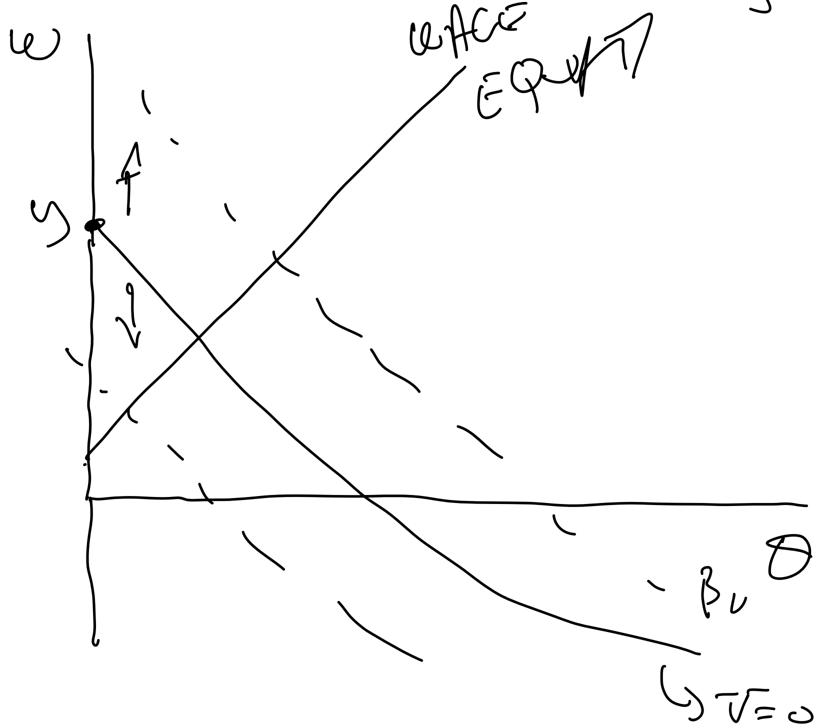
I get the Rind expression of the wage

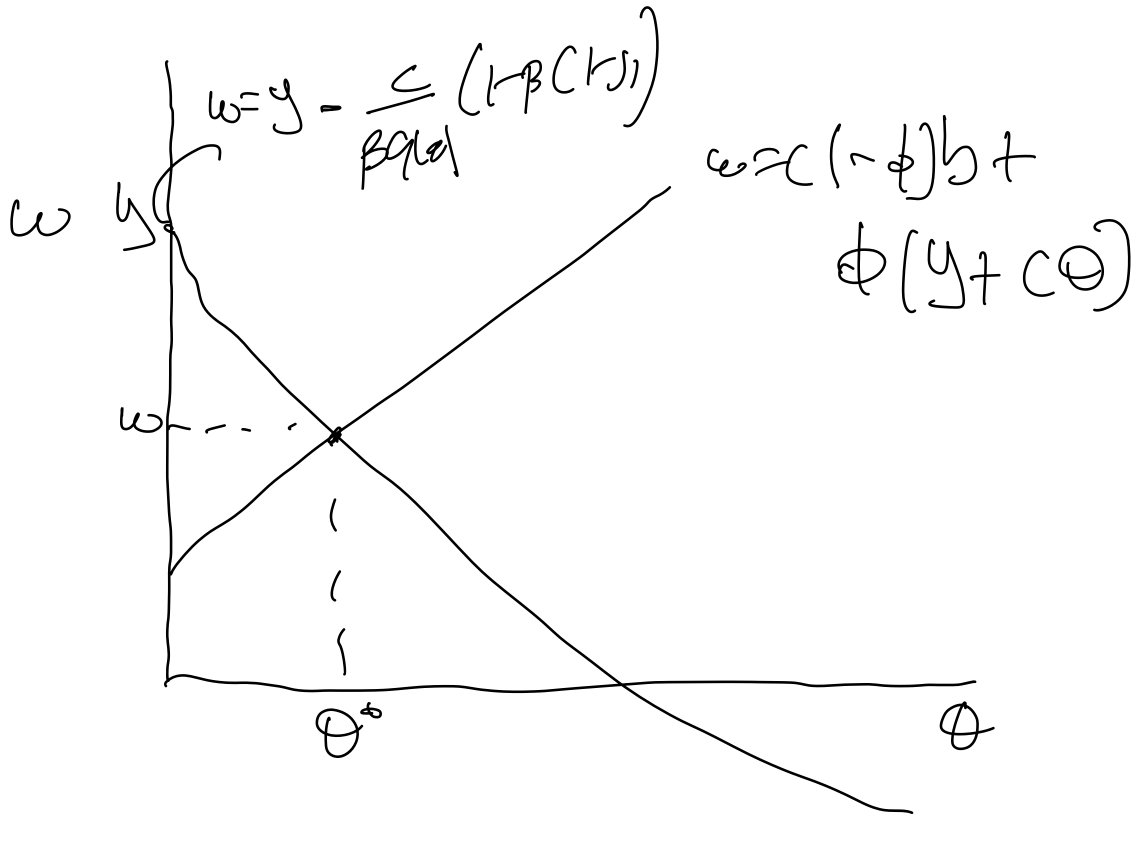
$$w = (1-\phi)\left[b + \frac{\phi c\theta}{1-\phi}\right] + \phi y$$

$$w = (1-\phi) b + \phi [y + c\theta]$$

$y \quad \frac{c}{\beta q(\theta)}(1-\beta(1-s))$

$q'(\theta) < 0$

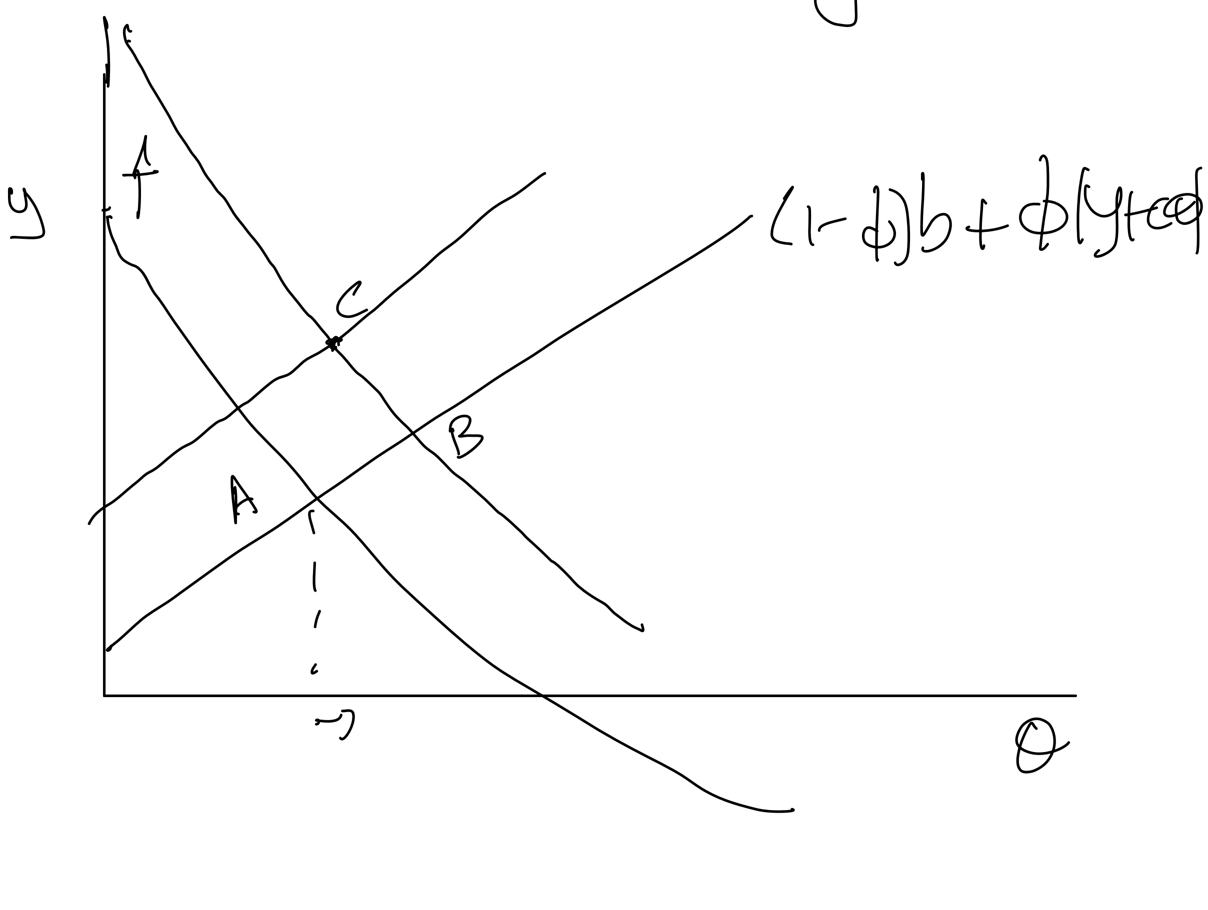




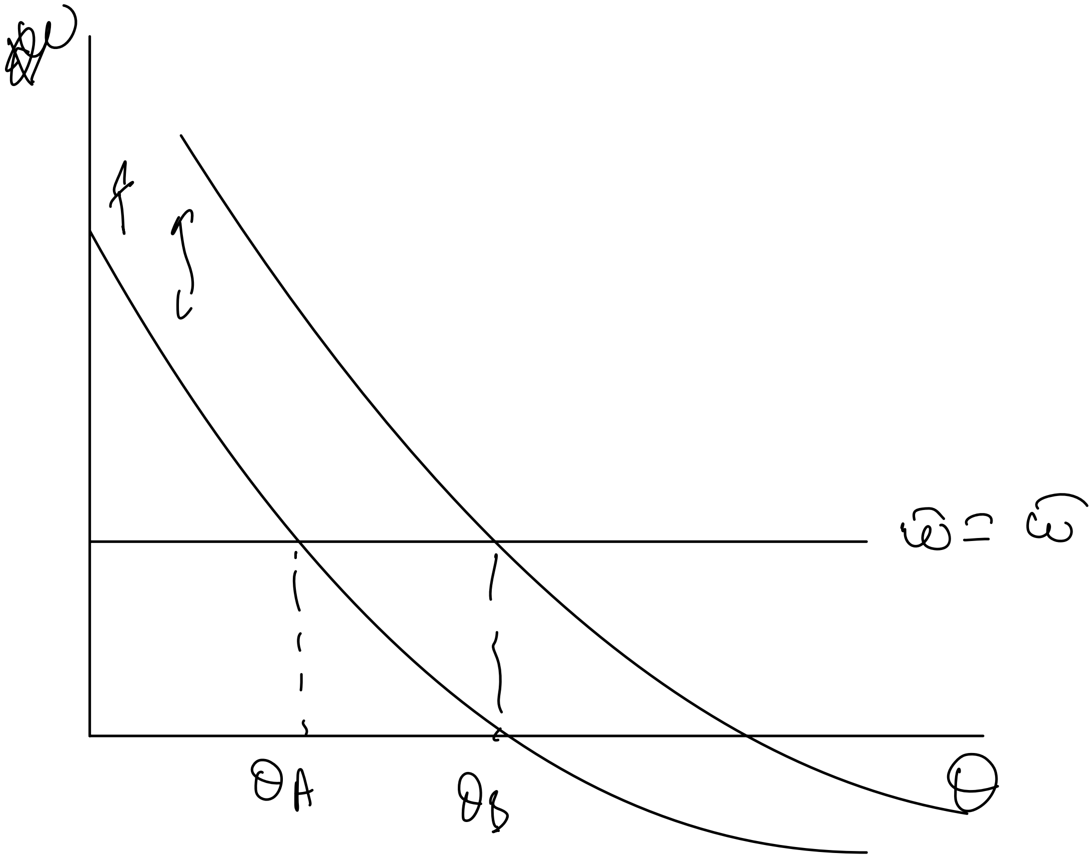
$$\theta^* = \begin{cases} (1-\phi)b + \phi(y+c\theta) = \\ = y - \frac{c}{\beta q\theta}(1-\beta(1-s)) \end{cases}$$

$$\theta^* = \theta^0(y)$$

what is an increase in y?



Suppose wages are fixed



$$\eta_{\theta,y} = \frac{\frac{d\theta}{\theta}}{\frac{dy}{y}} = \frac{d\theta}{dy} \cdot \frac{y}{\theta} = ?$$

$$\eta_{\theta_{iS}}^{\mathrm{DEATH}} = 20$$