## RISK-SENSITIVE JOB SEARCH

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QuantEcon - July 2024

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## VANILLA-JOB SEARCH BELLMAN EQUATION

Let  $v^*(w)$  denote the maximum lifetime reward with current wage offer w.

$$v(w) = \max\left\{\frac{w}{1-\beta}, h(w)\right\}$$

- Wage process  $(W_t)$  is P-Markov on  $\mathcal{W} \subset \mathbb{R}_+$
- Continuation value  $h(w) = c + \beta \sum_{w' \in \mathcal{W}} v(w') P(w, w')$

## RDP REPRESENTATION

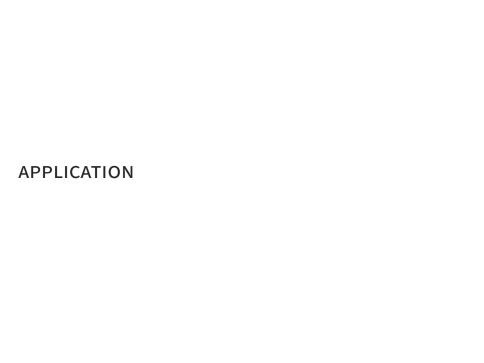
Let

• 
$$\Gamma(w) = A = \{0, 1\}$$

• 
$$V = \mathbb{R}_+$$

• 
$$B(x,a,v) = a \cdot \frac{w}{1-\beta} + (1-a) \cdot h(w)$$

There is no risk in present, risks are in the future  $\implies$  We only need to change h(w) to  $(K_{\theta}h)(w)$ .



## WAGE

Let the wage process follows

$$W_{t+1} = 0.9W_t + 0.2\varepsilon_{t+1}, \quad \left(\varepsilon_t\right) \sim_{\mathit{IID}} N(0,1)$$

 $\Longrightarrow$ 

$$(W_t) \sim_{IID} N\left(0, \frac{0.2^2}{1 - 0.9^2}\right)$$

Recall we assume  $\mathcal{W} \subset \mathbb{R}_+$