

- State $i \in \{0, 1, \dots, n\}$: number of unfilled orders
- Action $u \in \{0, 1\}$: process (1) or not (0)

$$u \in \{0, 1\}, \text{ if } i < n; \quad u = 1, \text{ if } i = n$$

- State Transition $p_{ij}(u)$:

$$p_{i1}(1) = p_{i(i+1)}(0) = p, \quad p_{i0}(1) = p_{ii}(0) = 1 - p, \quad i < n$$

$$p_{n1}(1) = p, \quad p_{n0}(1) = 1 - p$$

- Per-stage cost

$$g(i, 1) = K, \quad g(i, 0) = ci$$