

$$\begin{aligned}
&? \\
& n_i \leq \epsilon c_{DSCSP} S_i s_i 0 \leq \\
& 1 S_i \\
& \phi = \\
& 0 \phi = \\
& 1 \\
& q p \\
& S = \\
& \{s_i = \\
& (x_i, p v_i, p c_i)\}_{i=1}^N N p v p c x_i p c 0 \leq \\
& n \leq \\
& 1 \eta c \cdot \\
& n^2 c \cdot \\
& \epsilon^n q \cdot \\
& p c d \cdot \\
& p c \\
& S_i h(S_i) x h x h(x) q_h(x) \\
& S_i n_i h(S_i) q(S_i) q(x) x q(x) > \\
& 0 q(x) < \\
& \{d o_i\}_{i=1}^m \\
& \{s c_j\}_{j=1}^n \\
& \epsilon \\
& p_{d o_i}(\epsilon) \quad i \\
& g_{d o_i}(\epsilon) \quad i \\
& p \\
& q_i(\epsilon) \\
& f_j(q) \quad j \\
& d_j(q) \quad j \\
& q \\
& p \\
& j \\
& d
\end{aligned}$$

$$(1) \quad U_j(p,q,d) = q \cdot f_j(d,q) - p \cdot d$$

$$f_j()f_j(d,q)$$

$$(2) \quad q \cdot f'_j(d) - p = 0$$

$$(3) \quad \begin{aligned} & j d_j \\ & d_j = \max\{0, \arg \max_d f'_j{}^{-1}(p/q)\} \end{aligned}$$

$$(4) \quad \begin{aligned} & d_j(p,q) = \max\{0, f'_j{}^{-1}(p/q)\} \\ & p \cdot \\ & d_j \\ & \pi_j \end{aligned}$$

$$(5) \quad r_{SP}(p,q) = p \cdot \sum_j \pi_j \cdot d_j$$

$$s_{do_i}^h s_{do_i}^m s_{SP}^t$$

$$s_{SP}^v u_{do_i}(x,y) u_{SP}(x,y) p_{do_i}^h p_{do_i}^m p_{SP}^t p_{SP}^v$$

$$(6) \quad U_{do_i}(p_{do_i},p_{SP}) = p_{do_i}^h \cdot u_{do_i}(s_{do_i}^h,s_{SP}^b) + p_{do_i}^m \cdot u_{do_i}(s_{do_i}^m,s_{SP}^b)$$

$$(7) \quad U_{do_i}(p_{do_i},p_{SP}) = p_{do_i}^h \cdot u_{do_i}(s_{do_i}^h,s_{SP}^v) + p_{do_i}^m \cdot u_{do_i}(s_{do_i}^m,s_{SP}^v)$$

$$(8) \quad U_{SP}(p_{do_i},p_{SP}) = p_{SP}^t \cdot u_{SP}(s_{do_i}^h,s_{SP}^t) + p_{SP}^v \cdot u_{SP}(s_{do_i}^h,s_{SP}^v)$$

$$(9) \quad \begin{aligned} & U_{SP}(p_{do_i},p_{SP}) = p_{SP}^t \cdot u_{SP}(s_{do_i}^h,s_{SP}^t) + p_{SP}^v \cdot u_{SP}(s_{do_i}^h,s_{SP}^v) \\ & u_{SP} u_{do_i} p_{do_i} \\ & \epsilon g() \\ & i \end{aligned}$$

$$(10) \quad u_{do_i}(s_{do_i}^h,s_{SP}^b) = p_{do_i} - g(\epsilon)$$

$$(11) \quad \begin{aligned} & u_{SP}(s_{do_i}^h,s_{SP}^b) = r_{SP}(p,q) - p_{do_i} \\ & r_{SP}(p,q) \\ & i \end{aligned}$$