

6.2 Quality Competition

$$\max_{x,y} U(x)V(q) + y \quad \text{s.t.} \quad \bar{y} = y + Px$$

$$U'(x)V(q) = P$$

$$\max_{q,x} (P - c(q))x$$

$$P = c(q)$$

$$c'(q) = 0$$

$$U'(x)V(q) = c(q)$$

$$\max_{x,q} U(x)V(q) + \bar{y} - c(q)x$$

$$U'(x)V(q) = c(q)$$

$$U(x)V'(q) = c'(q)x$$