

# Signaling quality in vertical relationships

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  - Refinements assume quite sophisticated behaviors

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  - No selection criterion

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- Market share for the unknown product
$$D(p, \mu) = \frac{2A + \mu\Delta - p}{2t}, \text{ with } A = \frac{t + \alpha(c - \Delta)}{2}$$

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- Upward distortion for  $H$  when  $c < \min \left\{ 2A, \sqrt{\Delta(4A + \Delta)} \right\}$

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  - High optimism prevents information disclosure

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  - There exists a continuum of pooling equilibrium prices  $p^*(w, F)$  that conceal information about environmental quality
- The optimal contract
  - 1 If  $\mu_0 \leq \bar{\mu}$ , there is a unique optimal contract that achieves separation with the pair of final prices robust to the intuitive criterion
  - 2 If  $\bar{\mu} < \mu_0$ , there is a multiplicity of optimal contracts that conceal information with the following wholesale prices and franchises:
    - $w_L^* = 0, w_H^* = c, F_L^* \in [\pi_L^I(p_H^I(\mu_0), \mu_0), \pi_L^I(\mu_0)]$  and  $F_H^* \in [\pi_H^I(p_L^I(\mu_0), \mu_0), \pi_H^I(\mu_0)]$ .
    - *Optimal contracts induce the retailer to set the pooling price  $p^* = \underline{p}_2(c, F_H^*, \mu_0) = \bar{p}_2(0, F_L^*, \mu_0)$*