Example State-Dependent Pricing

Abstract

1 Intoduction

- Some comment

2 Model

- Production function
$$y_t(h) = Z_t a_t(h)\ell_t(h) \tag{2.1}$$
- Profits
- Each firm chooses prices $\{\}$ in order to maximize its market value
$$\mathbb{E}_t \sum_{\tau=0}^{\infty} D_{t,t+\tau}\Pi_{t+\tau}(h) \tag{2.2}$$
where nominal profits in period t are given by
$$\Pi_t(h) = p_t(h)y_t(h) - W_t\ell_t(h) - \kappa_t(h)\mathbb{1}\{p_t(h) \neq p_{t-1}(h)\} \tag{2.3}$$
- Value function for the firm
$$V_t\left(a_t(h), \frac{p_{t-1}(h)}{P_t};\ \cdot\ \right) = \max_p \left\{\Pi^R\left(a_t(h), \frac{p_{t-1}(h)}{P_t}, \cdot\right) + \mathbb{E}_t\left[D^R_{t,t+1}V_t\left(a_{t+1}(h), \frac{p}{P_{t+1}}, \cdot\right)\right]\right\}$$
- $$v(a, p/P;\ \cdot\ ) = \int_\xi \max\left\{V^A() - \xi, V^N()\right\}$$
where
$$\begin{aligned} V^A(a, \tilde{p}_{-11},\ \cdot\ ) &= \max_{\tilde{p}}\left\{\Pi^R\left(a, \tilde{p}, \cdot\right) + \mathbb{E}\Big[\Big]\right\} \\ V^N(a, \tilde{p}_{-1},\ \cdot\ ) &= \Pi^R\left(a, \tilde{p}_{-1}, \cdot\right) + \end{aligned} \tag{2.4}$$

The firm will choose to pay the fixed cost iff $V^A - \xi \geq V^N$. Hence, there is a unique threshold which makes the firm indifferent between these two options

$$\tilde{\xi} = V^A() - V^N()$$

- The firm value function V , adjusted by the marginal utility of the representative households, is therefore given by