Model with Rigid Prices

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Definition of rigid price:

- Price that moves in direction of flexible price (bargained price) but less than it

Rigid-price norm

$$\boxed{p^n = \left[\frac{x^{\varepsilon} \cdot \overbrace{\mu}^{\text{AD parameters}}}{\underbrace{k}_{\text{AS parameters}}}\right]^{\sigma} \cdot p_0}$$

with $\boxed{\sigma \in [0, 1)}$, $p_0 > 0$

- $\sigma = 0$: price is fixed, $p^n = p_0$
- $\sigma = 1$:
  - price is flexible
  - if $p_0 = \dfrac{(1-\beta)^{\varepsilon-1}}{f(\tau^{-1}(\beta/1-\beta))}$: price is surplus-sharing price for β

Comparative statics:

Start from solution equation

$$y^d(x, p) = y^s(x)$$

$$\frac{x^{\varepsilon}}{[1+\tau(x)]^{\varepsilon-1}} \cdot \frac{\mu}{p} = f(x) \cdot k$$

$$\left[\frac{x^{\varepsilon} \cdot \mu}{k}\right] \cdot \frac{1}{p} = f(x)\,[1+\tau(x)]^{\varepsilon-1}$$

Insert price norm

$$\left[X^{\varepsilon} \frac{\mu}{k} \right] \cdot \left[X^{\varepsilon} \frac{\mu}{k} \right]^{-\sigma} \cdot \frac{1}{p_0} = f(x) \left[1+\tau(x) \right]^{\varepsilon-1}$$

$$\left[X^{\varepsilon} \frac{\mu}{k} \right]^{1-\sigma} \cdot \frac{1}{p_0} = \underline{f(x) \left[1+\tau(x) \right]^{\varepsilon-1}}$$

defines x

Same definition of x as w/ fixed price p_0 except for exponent $1 \geq 1-\sigma > 0$

→ Comparative statics w/ rigid price are same as w/ fixed price

→ But effects are attenuated: elasticity of tightness wrt X, μ, k is $\boxed{(1-\sigma) \times \text{elasticity}}$ under fixed price.