Coarse Pricing Policies

by Luminita Stevens (U Maryland and Minneapolis FRB)

Discussion by Isaac Baley (UPF and Barcelona GSE)

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Highlights

① Very interesting empirical facts

- ▶ Heterogeneity in pricing plans (single, one-to-flex, multiple)

    - ✓ Extends notion of heterogeneity beyond frequency / dispersion

    - ✓ Joint analysis of regular and transitory price changes

- ▶ Plans identified as regime changes in the price distribution

    - ✓ More general than filters that identify regular from temporary changes

② Derives new theoretical results and "nests" previous papers

- ▶ Discrete policy w/asymmetric objective and Gaussian shocks

- ▶ Two dimensions for mistakes: review (timing) and pricing (size)

- ▶ Two types of info choice: flow (precision) and lumpy (observe state)

- ▶ Type of plan is defined by fundamentals (volatility, competition)

Some (missing) links to related literature

- **Exogenous coarse pricing plans**

  1. Álvarez & Lippi ('15): menu costs + binary price plans

     - Pay menu cost to adjust price plan $\mathcal{P} = \{p_L, p_H\}$
     - Choose $p \in \mathcal{P}$ costlessly

  2. Anderson, *et. al.* ('16): Stickiness of temporary sales

     - Sales are complex contingent contracts set in advance
     - Temporary discounts "conceal" price increases

- **New implications obtained by endogenizing the info choice?**

  - ✓ Policy type changes with fundamentals
  - ▶ Suggestion: Compare exogenous vs. endogenous policies

    - How is monetary non-neutrality affected by endogenous info choice?
    - Proportion of $\{SPP, OFP, MPP\}$ affect non-neutrality

Use micro price statistics to discriminate across theories

- **Hazard rate of price adjustment <u>in the time dimension</u>**

    $h(\tau) = Prob(\text{adjust at date } \tau \mid \text{no adjustment until } \tau)$

    - Calvo: constant hazard, standard menu cost: increasing hazard
    - Data: decreasing!

- **Decreasing hazards in menu costs models:**

    - learning: Baley & Blanco ('16)
    - experimentation: Bachmann & Moscarini ('12), Argente & Yeh ('16)
    - binary price plans: Álvarez & Lippi ('15)

- **What does your info choice model imply for this hazard rate?**

    - Difference between price change hazard and policy change hazard
    - My intuition: indifference within support implies decreasing hazard

Further connection between model and data

- **Testable model implications:**

  larger competition and volatility $\Rightarrow$ higher incentives to acquire info
  $\Rightarrow$ higher complexity in policies $\Rightarrow$ responsiveness to shocks

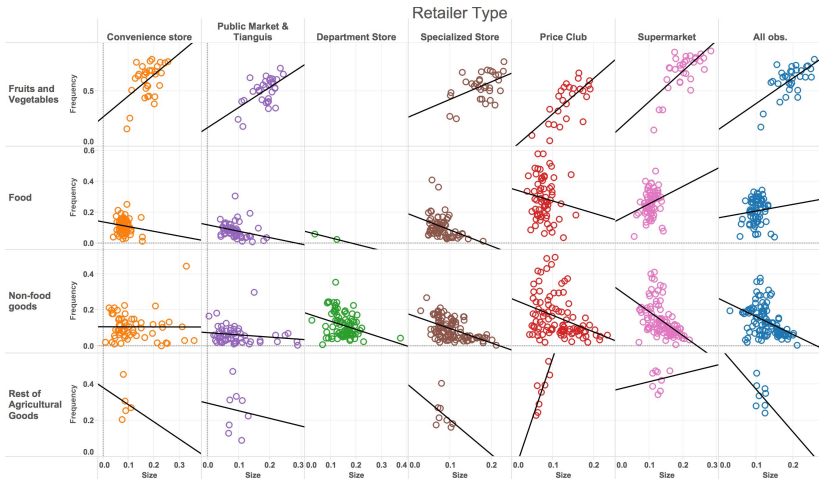- **Do more competitive/volatile sectors feature:**

  i) a larger proportion of MPP types vs. SPP types (complexity)?

  ii) larger passthrough of nominal shocks (responsiveness)?

- **Explore heterogeneity across sectors or retailer type**

Heterogeneity by retailer type

- Weekly CPI data from Mexico
- Frequency vs. size or price changes

Specific questions and suggestions

1. Are there switches across policy types in the data?

2. Is the greater adjustment during Great Recession coming from:

   i) extensive margin (switches from SP to MPP) or

   ii) intensive (finer price gris in MPP)?

3. Result on monetary non-neutrality and idiosyncratic volatility

   ▶ Compute the area under the impulse response, seems smaller for higher volatility

4. Joint calibration of the proportion of $\{SPP, OFP, MPP\}$ in the data through different idiosyncratic volatilities