Discussion of “Control costs, rational inattention, and retail price dynamics” by James Costain and Anton Nakov

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Overview

Question: How do firms set prices?

- Sticky prices? Sales? Sticky plans?

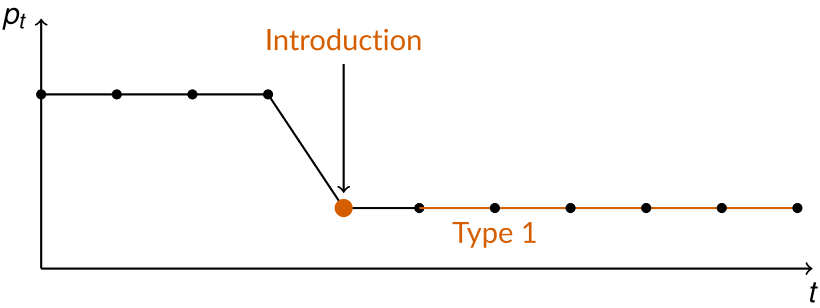
- Matters for real effects of monetary policy (+ other shocks)

This paper:

- Empirics: most price changes are to prices already seen $\geq$ once in the last year.
  But firms don't change their set of prices all at once.
  - Contrast to Stevens (2019).

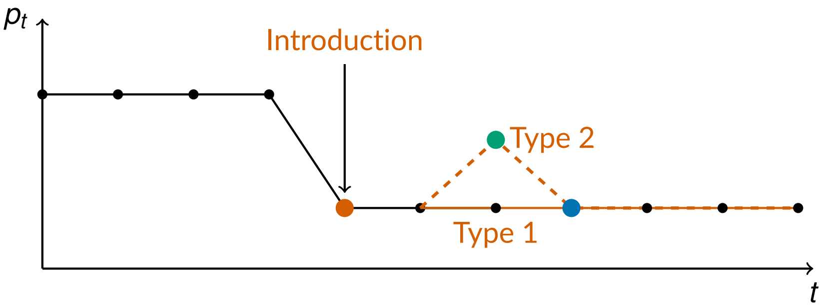
- Theory: explain data with short-term memory RI model.
  Key novelties:
  1. Directly calibrate $Pr(\text{no nominal } \Delta p)$ and $Pr(\text{return to old } p)$ from data.
  2. Combine RI with stochastic price discrimination (Guimaraes & Sheedy, 2011).

Empirics: a taxonomy of price changes



Calvo/menu costs: mostly type 1 introductions, some transitory changes.

Empirics: a taxonomy of price changes



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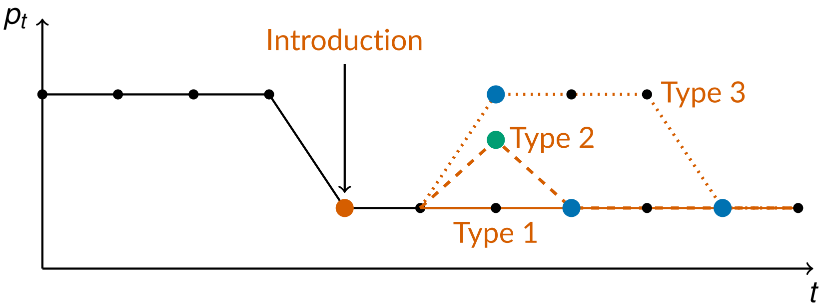

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Data: mostly recurrences, then type 3 introductions.

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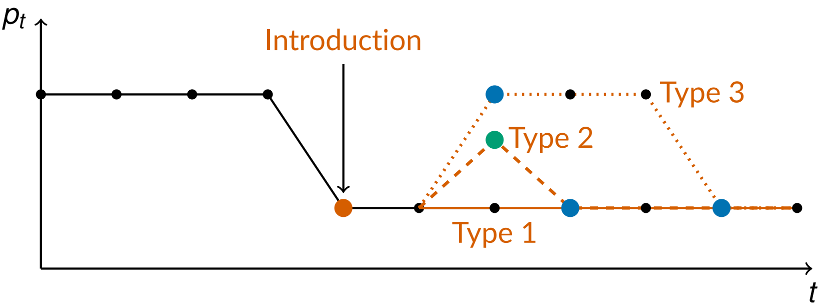

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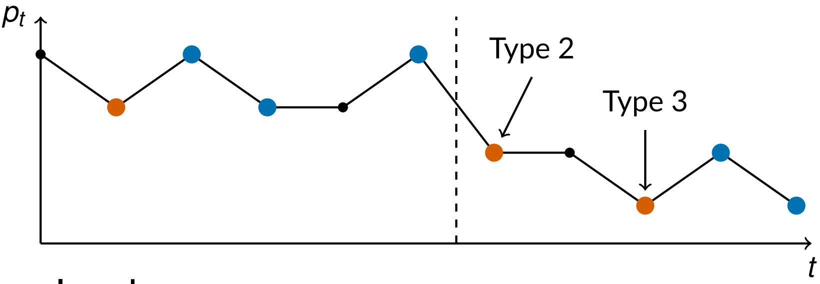
Data: mostly recurrences, then type 3 introductions.

Sticky plans (Stevens, 2019): mostly recurrences, then ...?

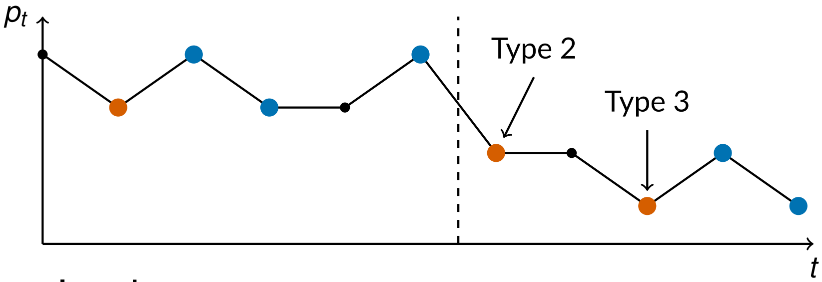
Empirics: type 3 introductions in a sticky plan model



When plans change:

- 1 **type 2**, then all subsequent introductions in the plan are **type 3**.

Empirics: type 3 introductions in a sticky plan model



When plans change:

- 1 **type 2**, then all subsequent introductions in the plan are **type 3**.
- Stevens (2019): median # prices in plan =4, so expect $\approx$ 75% introductions = type 3.

This paper:

- 44% products have only type 1 or only type 3, but 11% of all intros are type 2.

Sticky plans could be good description of remaining products?

Theory: adapting RI/CC to explain sticky nominal price points

Standard RI: sticky price points relative to distribution of optimal prices.
$\Rightarrow$ sticky **real** prices.

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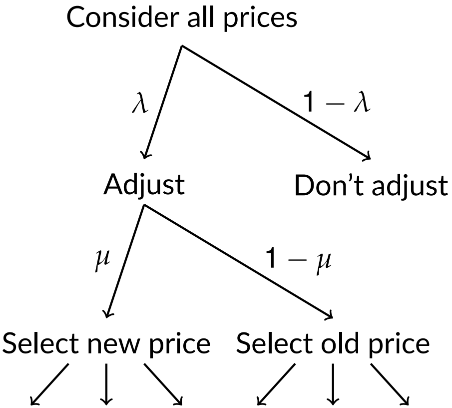
Costain Nakov solution:



- λ, μ: weighted logit.
- Multi-stage decision isomorphic to standard RI if choose weights optimally.
- **Key insight:** optimal weights are unconditional probabilities - calibrate to empirical hazard functions.

Theory: how should we interpret high $1 - \bar{\lambda}$?

Standard RI model:

$$\begin{array}{ccccccc} \underline{\text{Inputs}} & & \underline{\text{Outputs}} & & & & \\ f(z) & & \Pr(p) & = & \eta(p) & \Rightarrow & 1 - \bar{\lambda} \\ \pi(p, z) & & \Pr(p|z) & & & & \end{array}$$

$\bar{\lambda}$ is endogenous, not a free parameter.

Question: when we calibrate $\bar{\lambda}$, what adjusts to allow that?

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Question: when we calibrate $\bar{\lambda}$, what adjusts to allow that?

Options:

1. $\eta(p)$ not chosen optimally.
2. Allow an input to change with calibration.

Which is it? Affects whether $\bar{\lambda}$ changes after aggregate shocks.

Conclusion

Nice paper! Important contributions to empirics and theory.

The 2 questions/comments:

1. Could be more systematic on why data rejects sticky plans.
2. Economic interpretation of calibrated $\bar{\lambda}$ - which part of the firm problem adjusts?