## Nominal threshold prices, microeconomic and aggregate price stickiness

Extended Abstract

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Sticky prices caused by price adjustment costs are typically viewed as key to understanding why monetary disturbances can lead to real fluctuations. Since the seminal paper by Bils and Klenow (2004), the availability of new evidence on individual prices has triggered a fertile literature that assesses the ability of traditional models of price stickiness to match not only aggregate macroeconomic data but also the microeconomic evidence on price setting as documented by Nakamura and Steinsson (2008) or Klenow and Kryvtsov (2008).

In this paper, we explore an alternative explanation for the observed stickiness of individual prices: nominal threshold prices. While empirical works of Blinder et al. (1998), Dhyne et al. (2006) or Levy et al. (2011) provide growing evidence on the importance of nominal threshold prices, also known as psychological pricing points, there is so far no macroeconomic model with microeconomic foundations that describes how threshold prices enter the firms' price setting problem and that can explain the consequences of threshold prices for the behavior of individual prices and macroeconomic aggregates.

More specifically, we develop a simple price-setting mechanism based on exogenous nominal threshold prices and use it to replace the traditional mechanism based on costly price adjustment in a conventional New Keynesian framework. Relying on the Dominick's Finer Foods database of scanner price data, we show that the existence of threshold prices can explain several features of the microeconomic price data at least as well as price-adjustment costs. On the other hand, our model predicts that monetary disturbances have no effects on aggregate real variables like output, a result consistent with Caplin and Spulber (1987), Caballero and Engel (2007) or Golosov and Lucas (2007).

Hence our tentative conclusion is that price-stickiness may be less relevant for understanding the relationship between nominal disturbances and real fluctuations than previously thought. As a consequence, it might be advisable to reconsider alternative approaches like models based on sticky information (see Mankiw and Reis (2002)).

## References

- Mark Bils and Peter J. Klenow. Some evidence on the importance of sticky prices. Journal of Political Economy, 112(5):947–985, 2004.
- Alan S. Blinder, Elie R. D. Canetti, David E. Lebow, and Jeremy B. Rudd. Asking About Prices. Russel Sage Foundation, 1998.
- Ricardo J. Caballero and Eduardo M.R.A. Engel. Price stickiness in ss models: New interpretations of old results. *Journal of Monetary Economics*, 54:100–121, 2007.
- Andrew S. Caplin and Daniel F. Spulber. Menu costs and the neutrality of money. The Quarterly Journal of Economics, 102(4):703–726, 1987.
- Emmanuel Dhyne, Luis J. Ivarez, Herv Le Behan, Giovanni Veronese, Daniel Dias, Johannes Hoffman, Nicole Jonker, Patrick Lnnemann, Fabio Rumler, and Jouko Vilmunen. Price changes in the euro area and the united states: Some facts from individual consumer price data. *Journal* of Economic Perspectives, 20(2):171–192, 2006.
- Mikhail Golosov and Robert E. Lucas. Menu costs and phillips curves. Journal of Political Economy, 115(2):171–199, 2007.
- Peter J. Klenow and Oleksiy Kryvtsov. State-dependent or time-dependent pricing: Does it matter for recent u.s. inflation? *Quarterly Journal of Economics*, 123(3):863–904, 2008.
- Daniel Levy, Dongwon Lee, Haipeng Chen, Robert J. Kauffman, and Mark Bergen. Price points and price rigidity. The Review of Economics and Statistics, 93(4):1417–1431, November 2011.
- N. Gregory Mankiw and Ricardo Reis. Sticky information versus sticky prices: A proposal to replace the New Keynesian Phillips curve. *Quarterly Journal of Economics*, 117(4):1295–1328, November 2002.
- Emi Nakamura and Jón Steinsson. Five facts about prices: A reevaluation of menu cost models. The Quarterly Journal of Economics, 123(4):1415–1464, 2008.