


Berardi, Sevestre, and Thébault's (2015)

The many dimensions of heterogeneity in consumer price dispersion and dynamics

A discussion by Etienne Gagnon, Federal Reserve Board
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The paper in a nutshell

- The authors analyze price competition between large grocers (“hypermarkets”) and medium grocers (“supermarkets”).
- They find notable price differences across types of establishments and document some of their determinants:
 - Hypermarkets have lower prices overall;
 - Hypermarkets put downward pressure on the prices of competing supermarkets;
 - Higher urban density and household income are associated with higher store prices.
- That said, there is much heterogeneity in pricing behavior—both across and within retail chains—after accounting for the factors above.



Driving a hard bargain

- The authors infer prices at brick-and-mortar stores from the prices they advertise online for their “click-&-drive” operations (henceforth “drives”). Prices are specific to barcodes and stores.
- Drives allow shoppers to order groceries online, then pick them up—already bagged—at recovery sites. Drives can be attached to existing stores or be separate warehouses.
- The first drive was created in 2000 in Northern France. Drives add to shoppers’ convenience by having store employees fill online requests at no fee. They are also a way for hypermarkets to compete with supermarkets in urban areas.

Example of a drive



Source of image: [Lionel Allorge](#)



Mapping your network drives

- Bonial and Nielsen have produced a nice video that shows the implementation of drives in France since the concept was launched in 2000. This video can be accessed on Nielsen's [web page](#).



The other French Revolution

- The authors' sample corresponds to a period of rapid expansion in the number of drives in France.
- According to FEVAD/Nielsen:
 - On average, 1.9 drives opened every day in 2012-13, slowing to 1.2 drives per day in 2015:Q1;
 - As of April 2015, the number of drives stood at 3,428;
 - 1 in 4 households report having visited a drive in the past year while 1 in 10 report having doing so at least once a month.




The drive phenomenon

- Using drive prices to infer prices at brick-and-mortar establishments is clever. The authors have done a tremendous amount of work to this end. Unfortunately, their approach cannot be reproduced easily elsewhere because drives remain largely a French phenomenon.
- It would be interesting to study how the arrival of drives is changing the French retail landscape (in particular, how hypermarket drives in urban areas are affecting the level of supermarket prices). Doing so might require extending the time coverage of the sample.



What are the macro implications of pricing heterogeneity?

- The authors emphasize the large heterogeneity in pricing behavior across retail chains, a phenomenon that is pervasive in both France (e.g., Baudry *et al.* 2007) and elsewhere. Other authors have documented heterogeneity across product categories (e.g., Bils and Klenow 2005).
- What should macroeconomists make of this heterogeneity? Some authors have stressed the implications of heterogeneity conditional on specific pricing models (e.g., Carvalho 2006, Nakamura and Steinsson 2009), but these authors' modelling assumptions need not hold.



What are the macro implications of pricing heterogeneity?

- As Caballero and Engle (2007) stress, the frequency of price changes is not a sufficient statistic for the extent of macroeconomic flexibility. It is also unclear the extent to which sales add to overall price flexibility (e.g., Kryvtsov and Vincent 2015).
- To show that chain heterogeneity matters, a way forward would be to speak to the transmission of shocks across retail chains. Many conference participants have computed price responses conditional on shocks; perhaps some of their shocks would be applicable to the French context.