



International Evidence on the Setting of Individual Consumer Prices

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A presentation to the 10th meeting of the Ottawa
Group, October 10th, 2007.

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Context

- World economies are constantly hit by shocks
 - monetary injections;
 - exchange rates swings;
 - productivity gains;
 - fiscal stimuli;
 - changes in tariffs; etc.
- It is widely believed that the failure of individual prices to adjust in response to shocks has real effects on the economy
 - makes the economy more *volatile*, deepening recessions and exacerbating expansions;
 - leads to more *persistent* effects of shocks.

Context

- Although price stickiness has been at the hearth of the macroeconomic debate since Keynes (1936), the amount of evidence on the adjustment of individual prices was embarrassingly small until very recently.
- The situation is changing dramatically, however, as statistical agencies worldwide are increasingly making available to researchers the micro data they collect for the purpose of computing price indices.

Context

- These data bases are almost ideal for assessing the extent of price stickiness in the economy:
 - monthly data;
 - tens of thousand of individual items;
 - indicator of ongoing sales or promotions;
 - type of outlet;
 - representative of consumption basket;
 - representative of points of purchase.

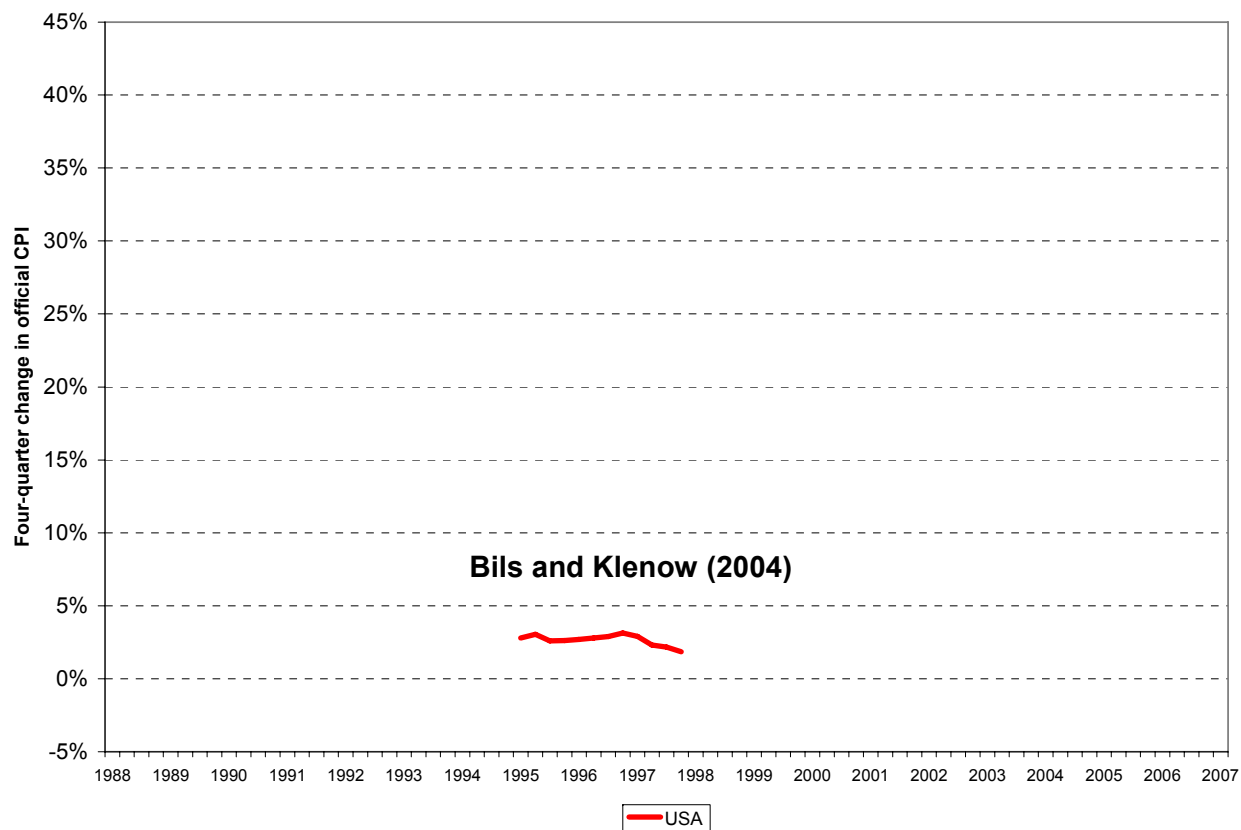
Mexican CPI micro data base

- Period
 - January 1994 to December 2006
- Price quotes
 - Total: 8.5 million
 - Per month: 30-85 thousand
 - Median item observed for about 5 years
- Coverage
 - 302-315 product categories
 - 2/3 consumption expenditures

Outline

- Overview of countries that have done studies using CPI micro data base.
- Two key findings from Mexico
 - Price stickiness and inflation,
 - VAT pass-through to individual prices.

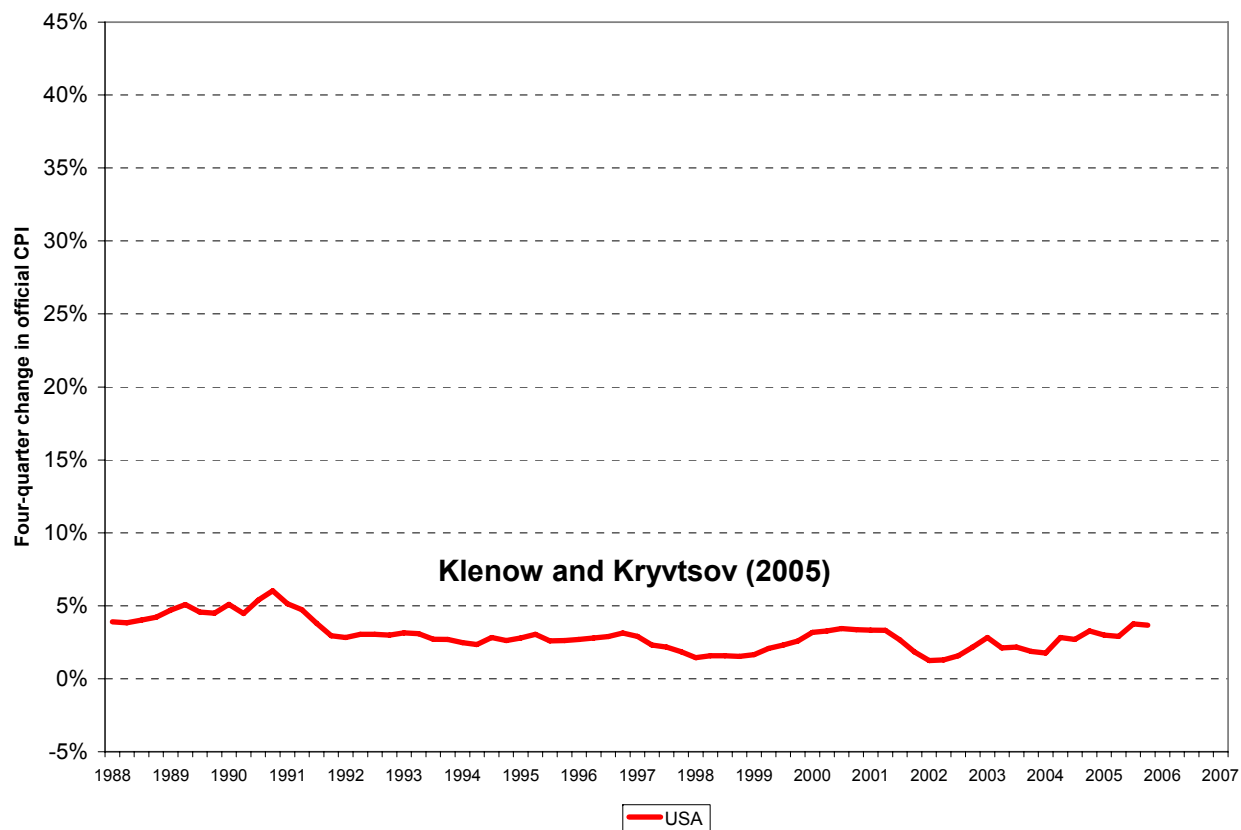
Inflation and time coverage of CPI studies



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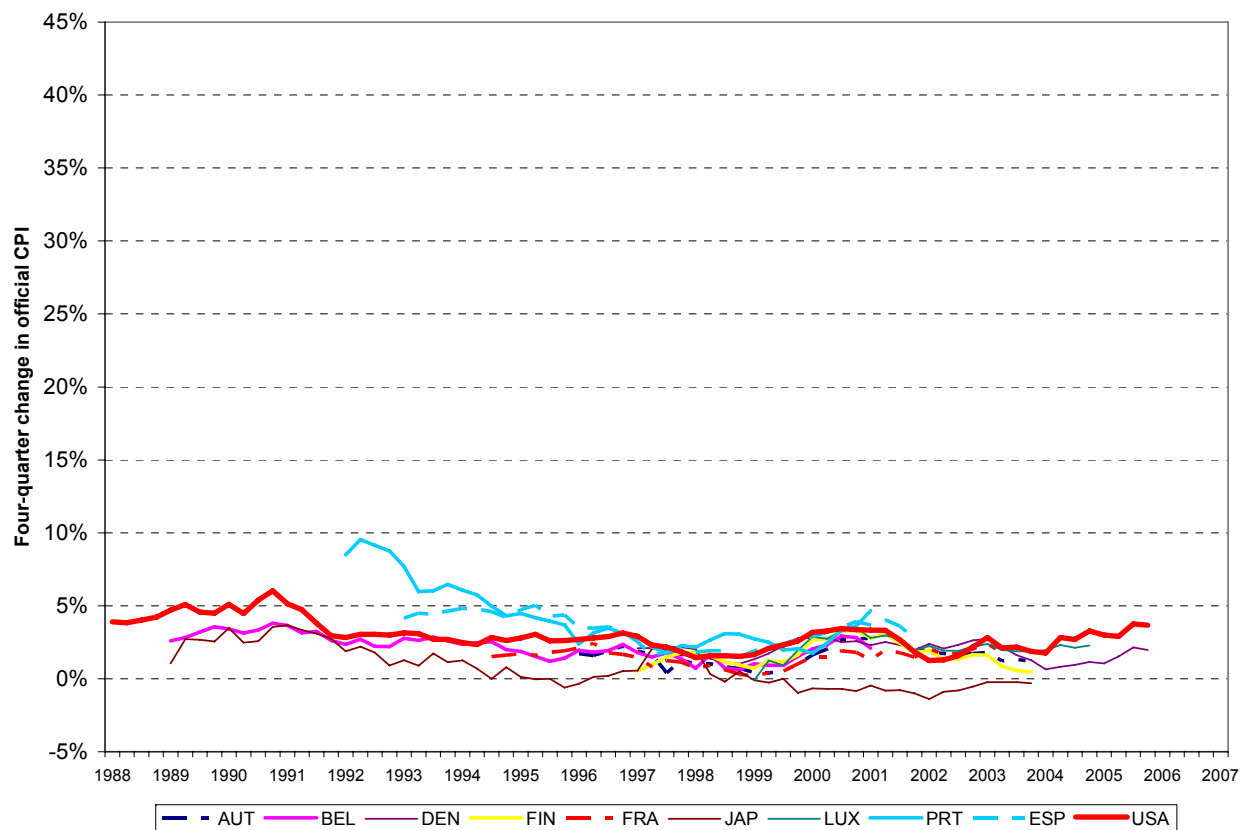
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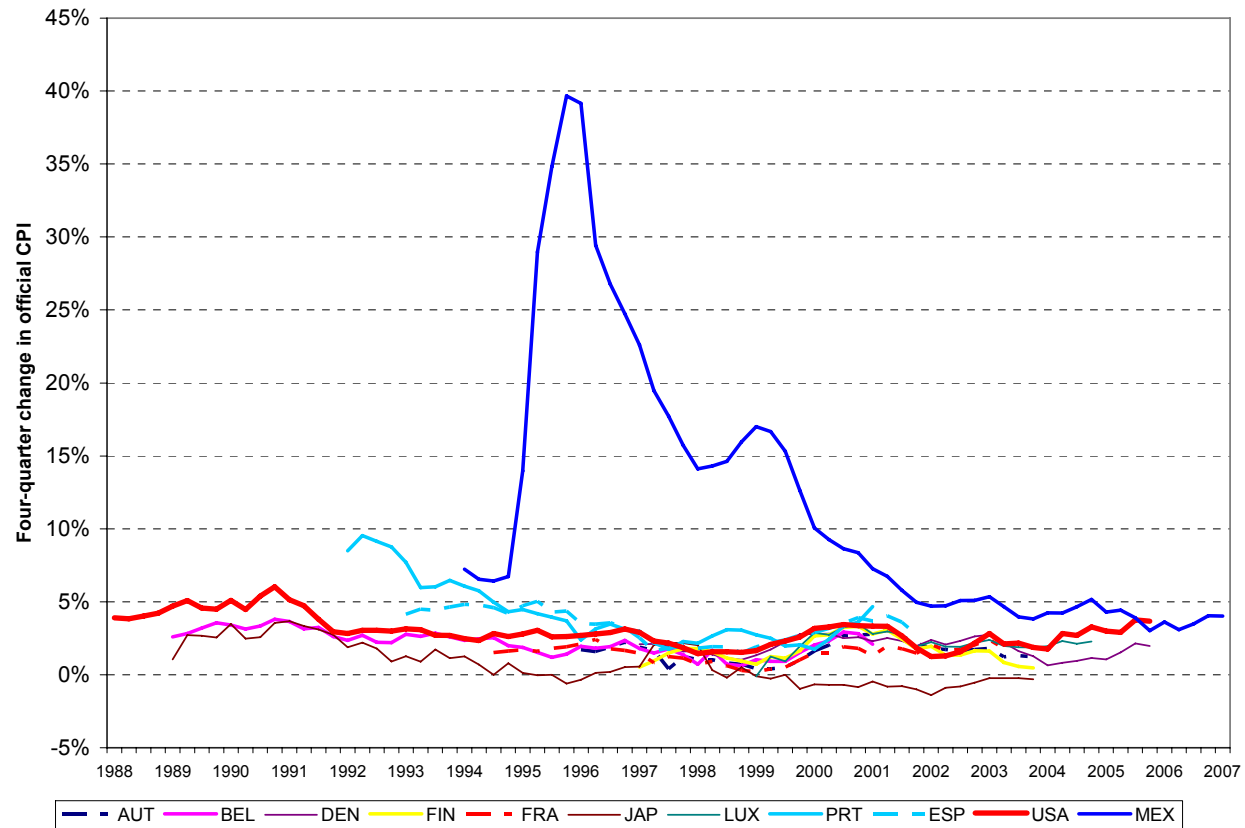
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Basic inflation accounting

- Inflation can be decomposed as:

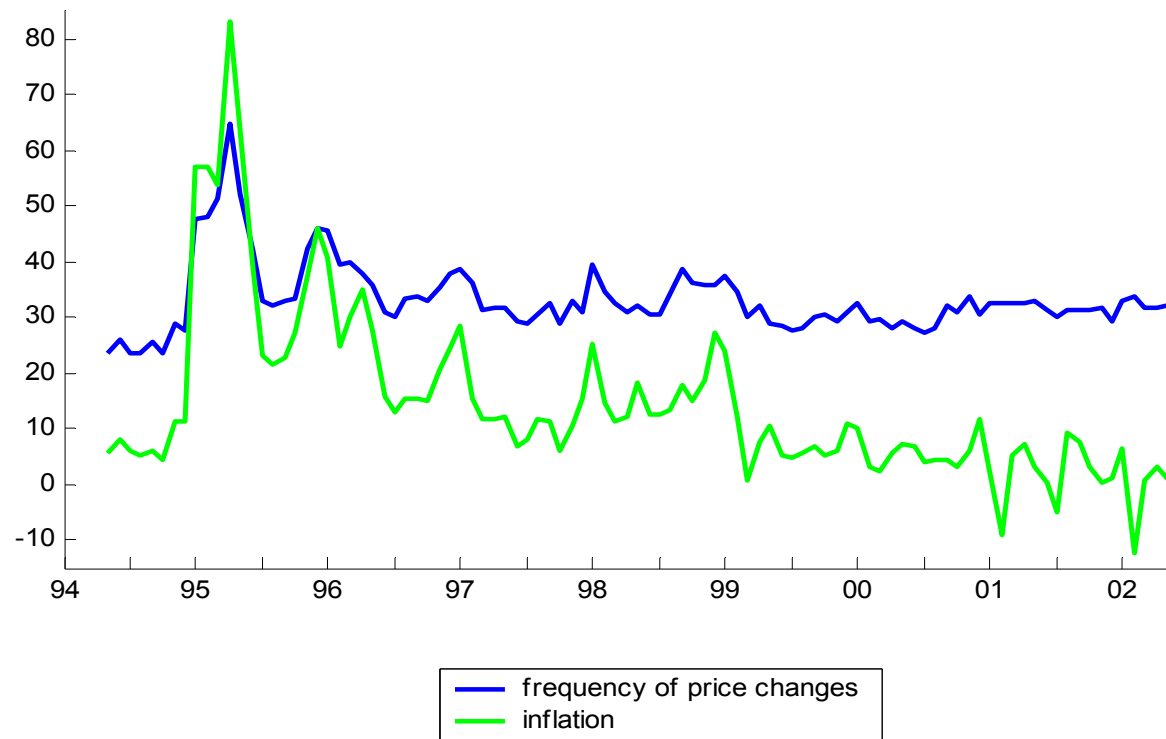
$$\pi_t = fr_t \cdot dp_t$$

where

fr_t Average frequency of price changes

dp_t Average magnitude of nonzero price changes

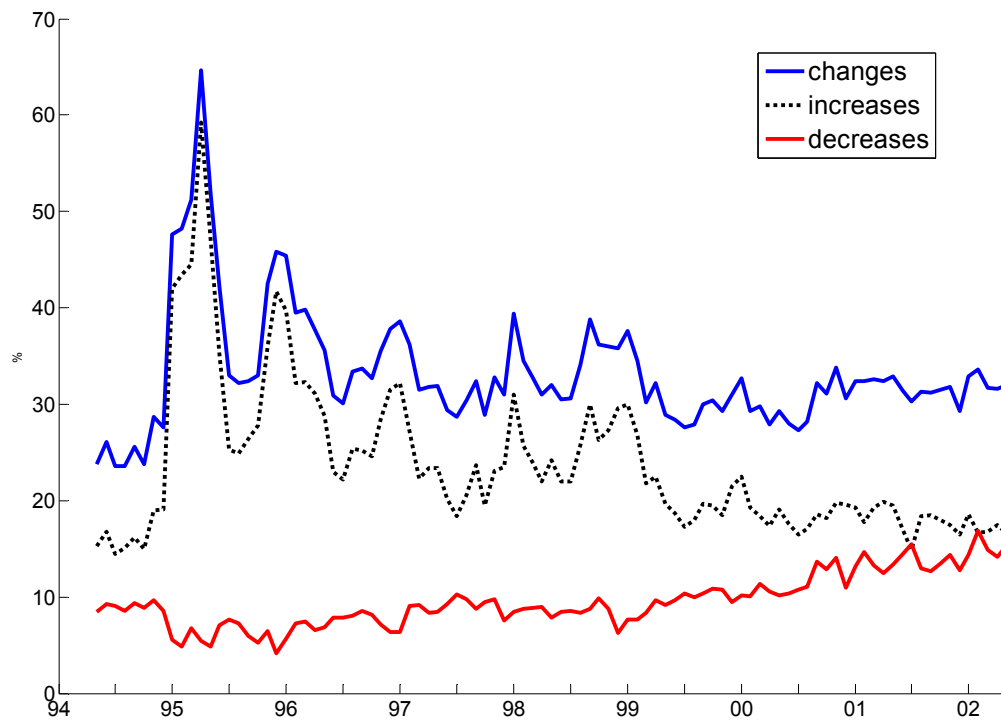
Frequency of price changes and inflation



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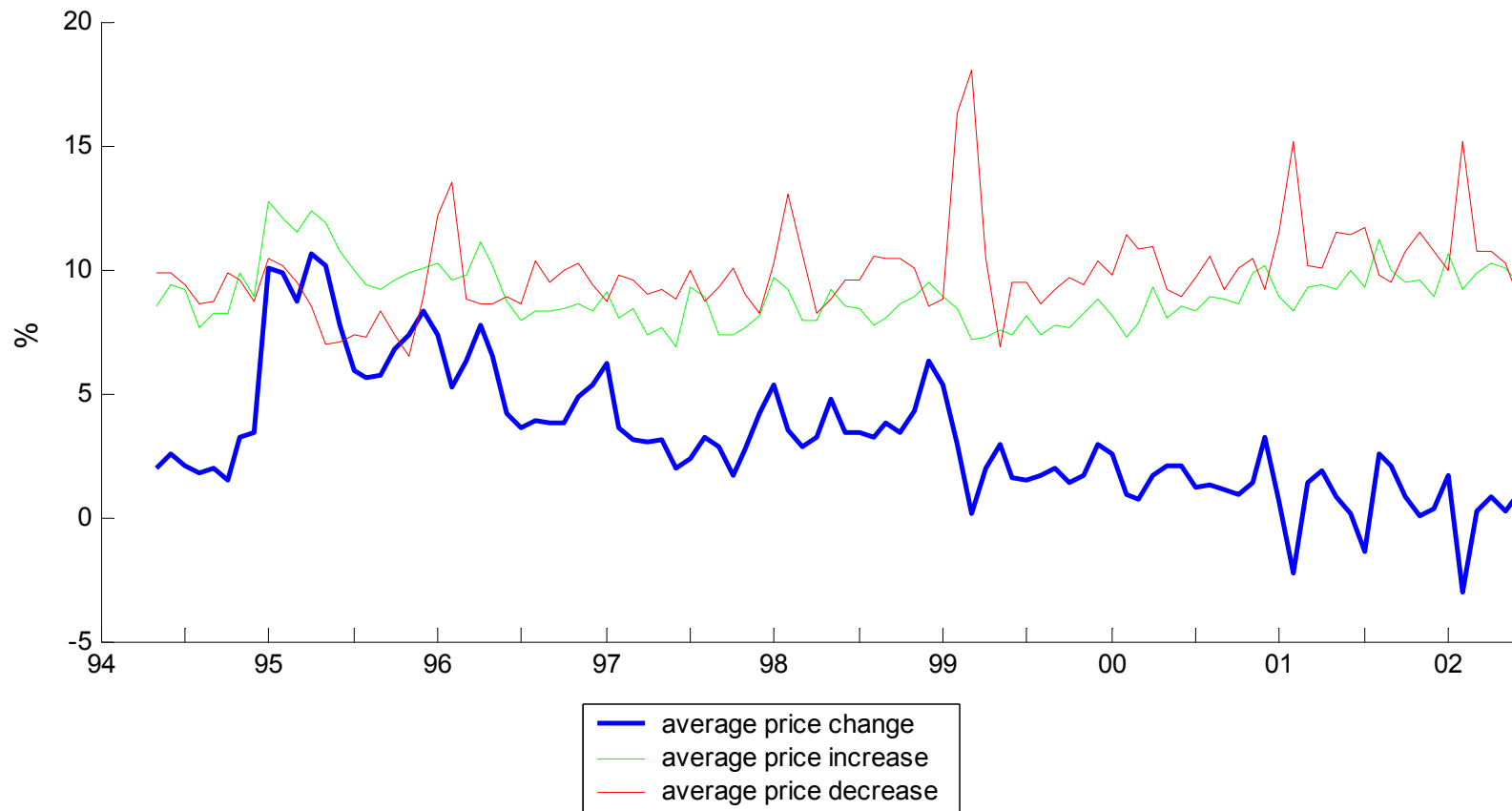
Frequency of price changes and inflation



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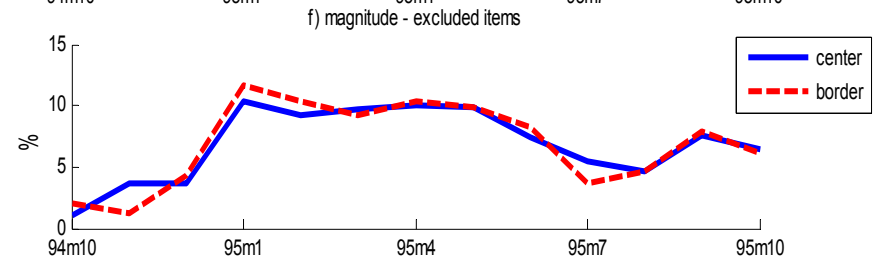
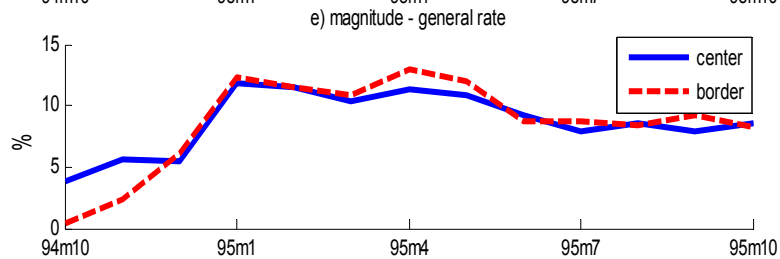
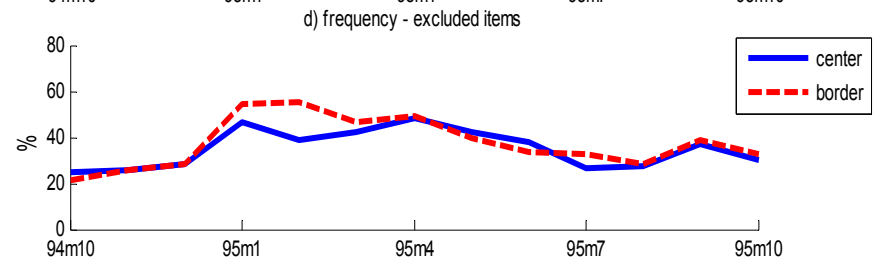
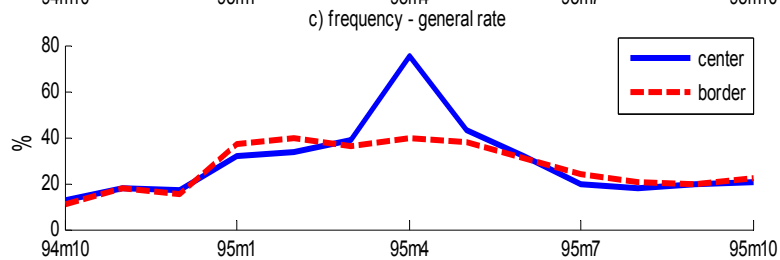
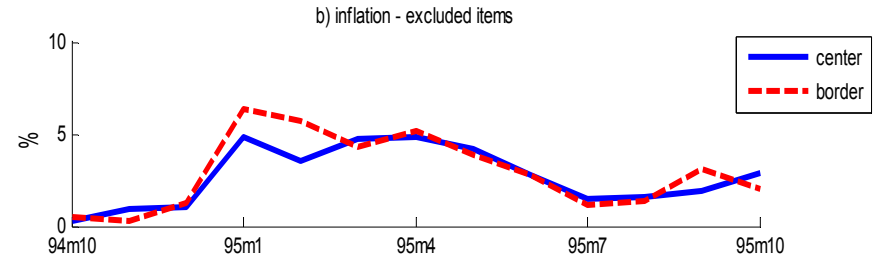
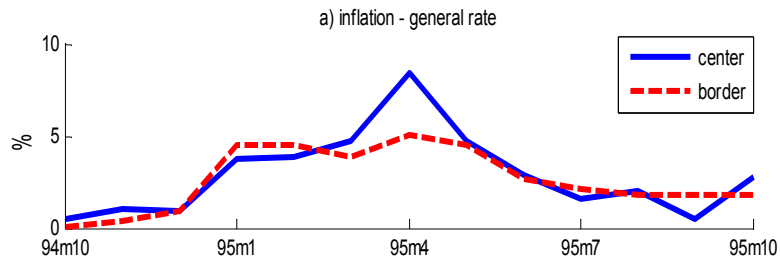
Magnitude of price changes and inflation



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April 1995 VAT change



Note: The sample is broken down between items that are taxed (general rate) and those that are not (excluded items). It is further divided between geographic areas where the general rate changed in April 1995 (center) and those where it remained the same (border).

Conclusion (1/2)

- Our understanding of how individual prices are set is expanding rapidly, thanks to researchers worldwide gaining access to large panels of data.
- We now have a clearer idea of the degree of price stickiness. We also better understand the response of individual prices to some shocks, as illustrated by the Mexican data.
- This abundance of new facts has spurred an enormous amount of research geared at improving economics models.

Conclusion (2/2)

- Much remains to be learnt using these data bases, however,
 - Is price stickiness changing as larger retailers expand (ex. Wal-Mart entering the Mexican market)?
 - How does the appearance and disappearance of items impact price stickiness and the economy's response to shock?
 - How do shocks get transmitted from commodities, to producers, and then to retailers?
 - What is the degree of exchange rate pass-through to import prices? And to individual prices?