Discussion of Campbell and Eden's "Rigid Prices: Evidence from U.S. Scanner Data"

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This paper finds

For ERIM data:

1. Declining hazard rates for price changes

2. Young prices are more dispersed than old prices

3. Increasing hazard rates for price farther away from average

This discussion

- Discuss data, methodology, evidence from other data
- Importance for (macro) theory
- Possible explanations of declining hazards

Robustness: less important issues

- Missing observations?
- Censoring? Gabriel and Reiff (2007): not important
- Type of store (many goods sold)?
- Distance between stores?

Robustness: more important issues

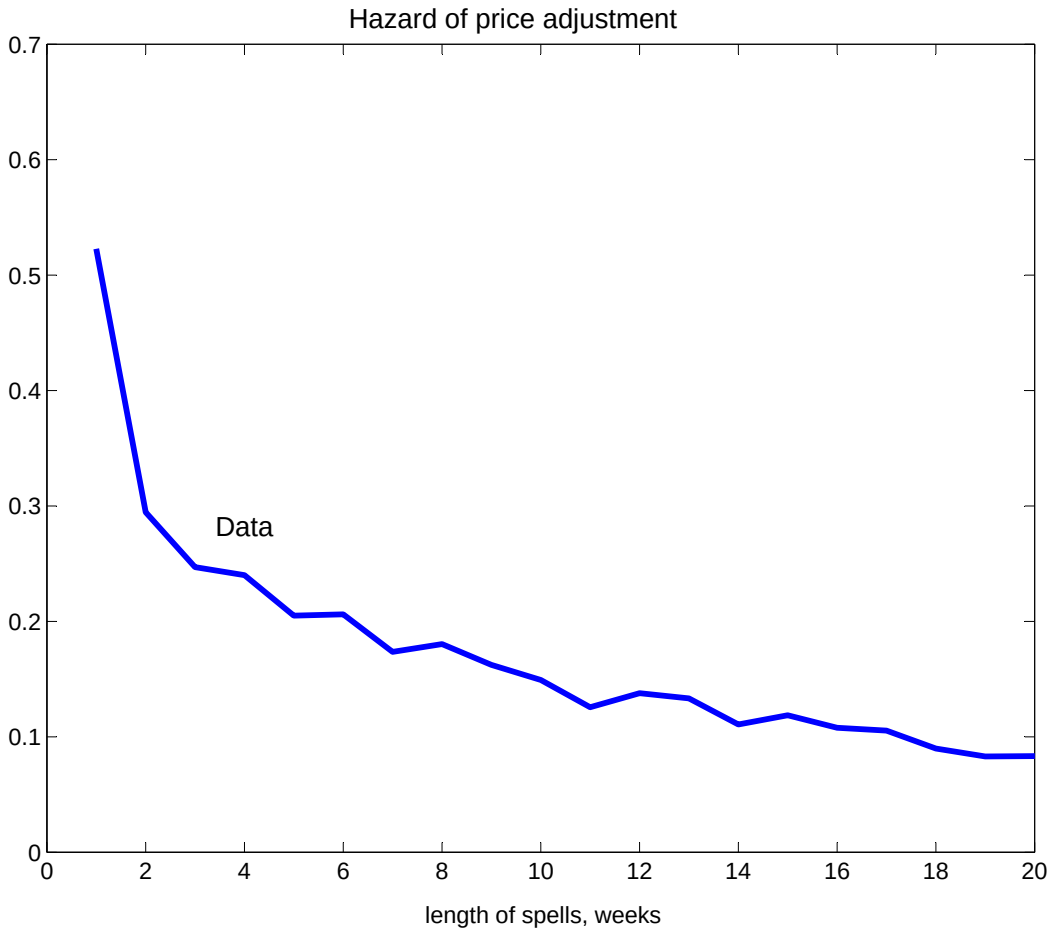
- Sales? Declining when sales excluded? Used "AC Nielsen algorithm" to identify sales?
- Errors? (e.g. 50% spike on Figure 1)
- Weights? Popular items have more sales, stockouts, ...
- Time aggregation? Declining at monthly frequency?
- Controlling for item fixed effects?
- Small subset of consumer goods?

Evidence from other data

Declining hazards are found in

- Kehoe and Midrigan (2007): Dominick's grocery stores

Does model produce downward-sloping hazard?



Evidence from other data

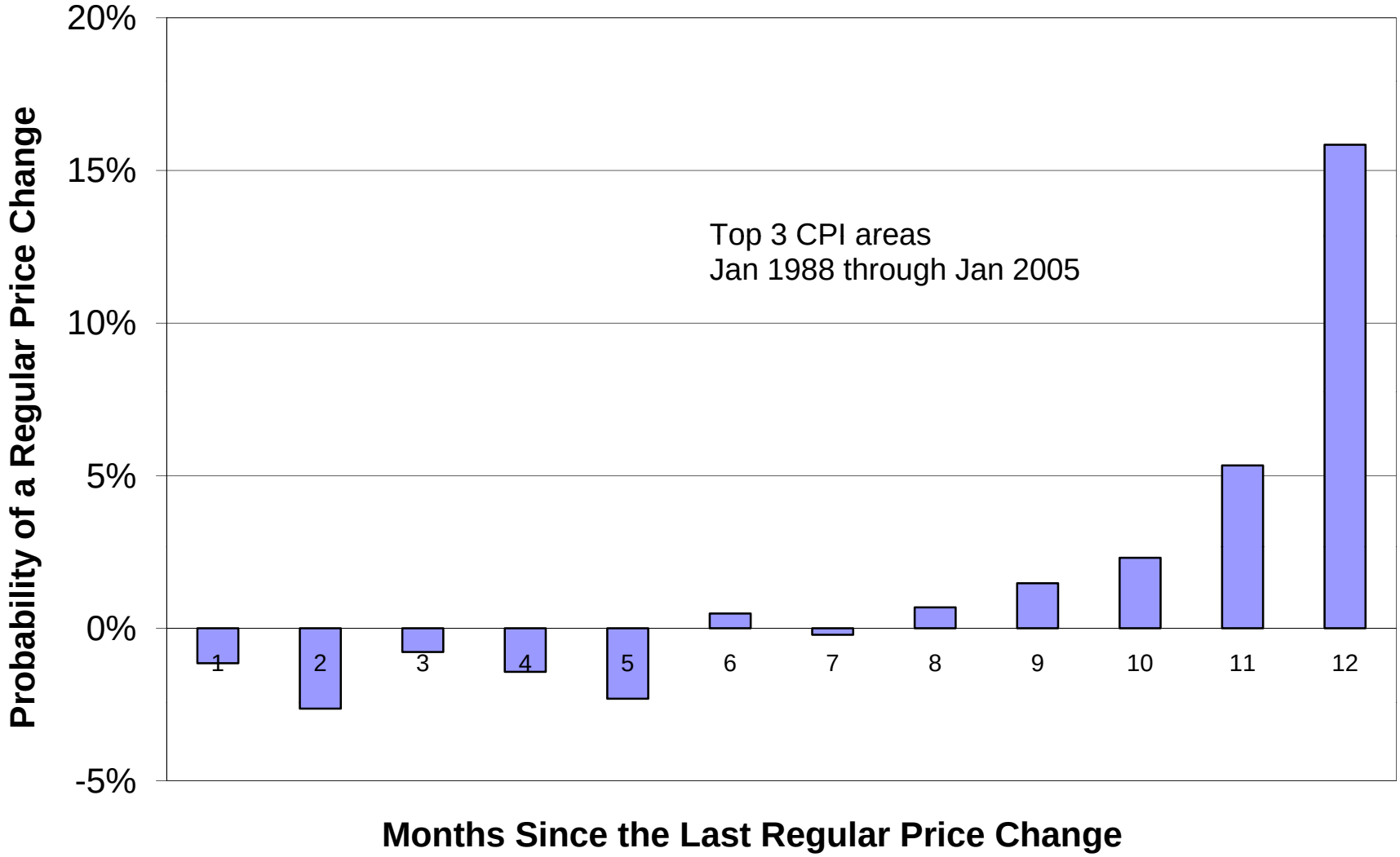
Declining hazards are found in

- Kehoe and Midrigan (2007): Dominick's grocery stores
- Warner and Barsky (1995): Durable goods in retail

Flat hazards are found in

- Klenow and Kryvtsov (2007): BLS data

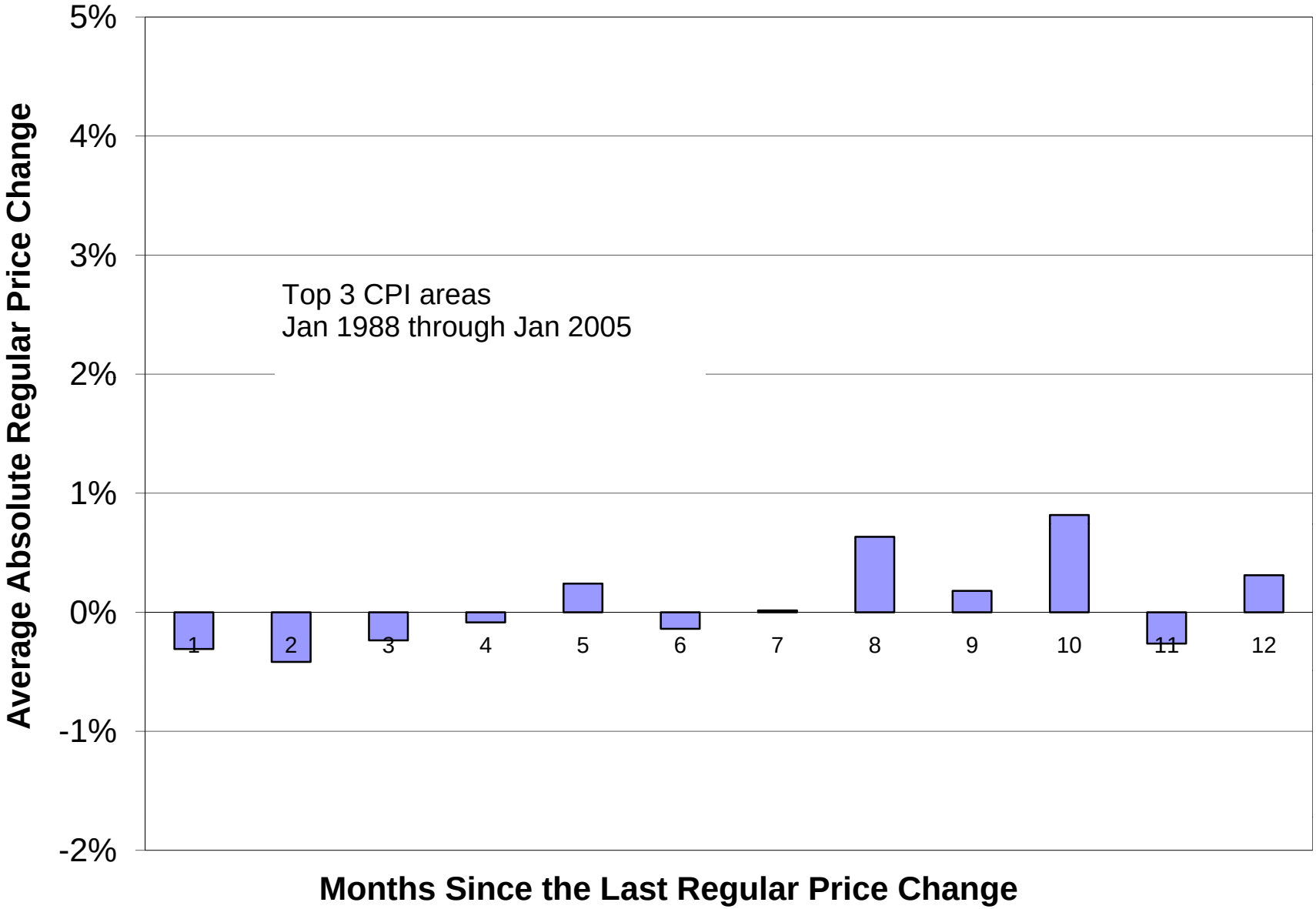
Hazards Rates (minus item fixed effects)



Fact 2

- Similar selection bias?
- Sectors with more frequent price changes tend to have larger dispersion of relative prices (larger shocks?)
- Can standardize price changes for item-store by standard deviation of new relative prices
- Klenow and Kryvtsov (2007) find that abs size of price changes does not depend on duration

Size of Price Changes (less item fixed effects)



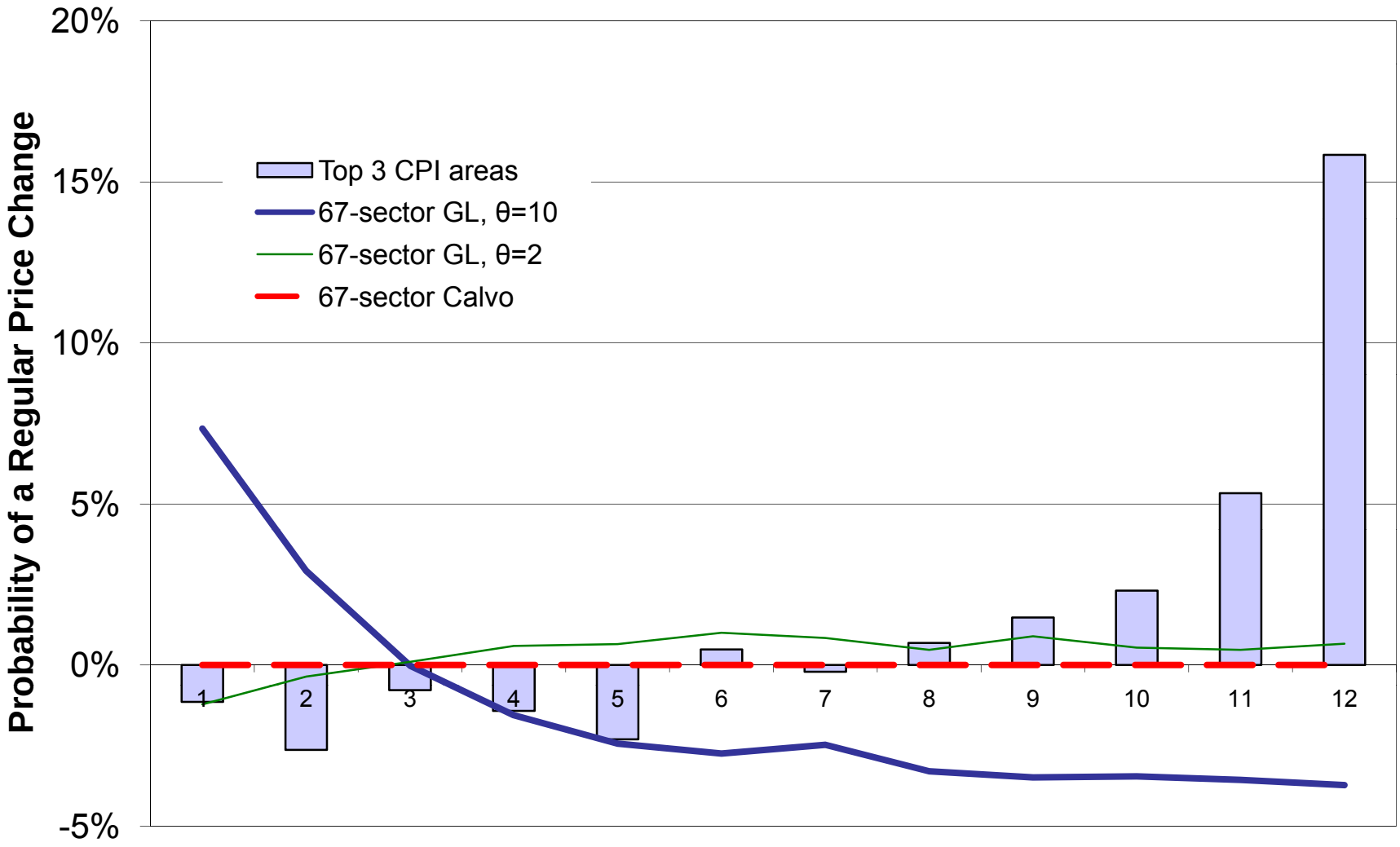
Bottom line for documenting Facts 1, 2

- Evidence on item-level heterogeneity in frequency of price changes
- Why is this important (for macro)?
- What is the nature of this item-level heterogeneity?

Why Facts 1 and 2 important?

- May help sort out theories of monetary nonneutrality
- E.g. TDP (Calvo) models imply flat hazard rates, but SDP (menu cost) models – increasing
- But can impose any shape of hazard rate in TDP model, e.g. Coenen and Levin (2005)
- SDP models also can be consistent with decreasing hazard rates

Hazard rates: Models vs. Evidence

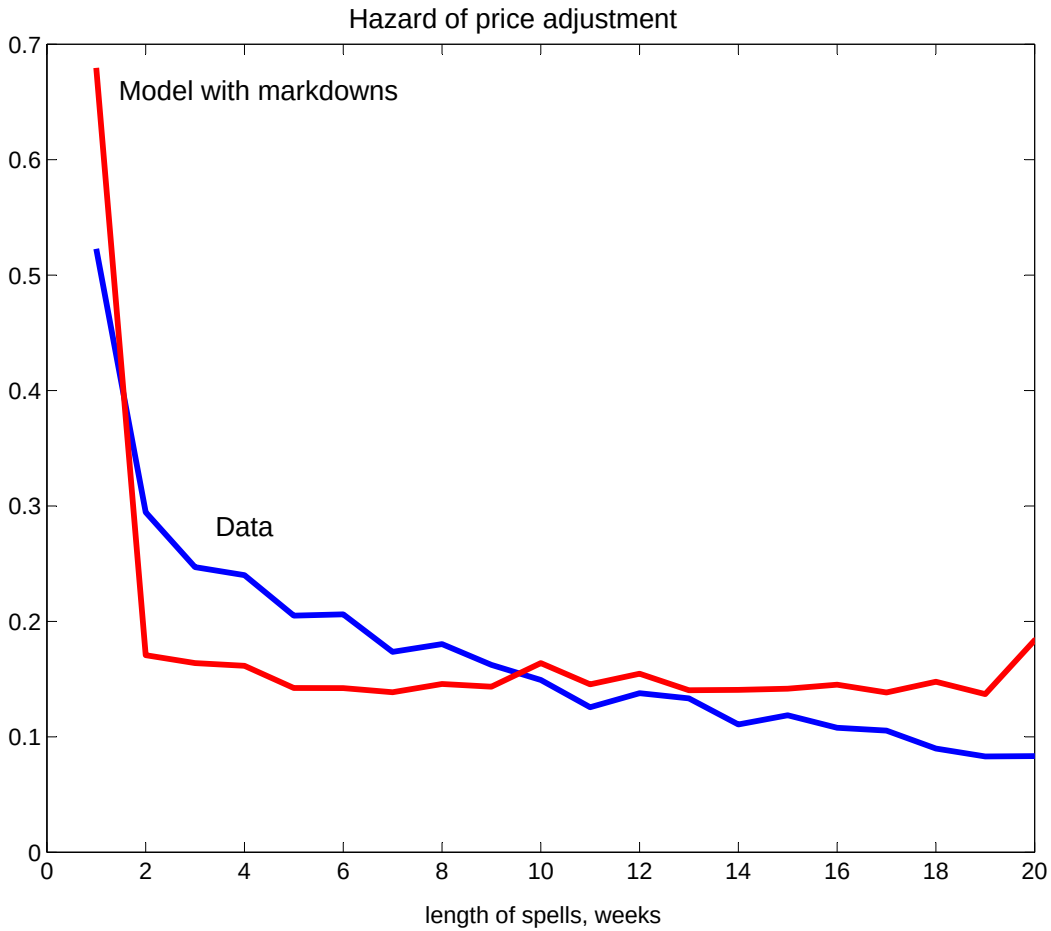


Need more facts to sort out theories

KK (2007) on Sticky Price Economies vs. BLS Facts

	GL	DKW	Calvo	Taylor
frequent Δp	**Yes**	**Yes**	**Yes**	**Yes**
large average $\lvert\Delta p\rvert$	**Yes**	**No**	**Yes**	**Yes**
many small $\lvert\Delta p\rvert$	**No**	**Yes**	**Yes**	**Yes**
variable durations	**Yes**	**Yes**	**Yes**	**No**
flat hazard rates	**Yes**	**No**	**Yes**	**No**
flat size vs. age	**Yes**	**No**	**No**	**No**
IM >> EM	**Yes**	**No**	**Yes**	**Yes**

Does model produce downward-sloping hazard?



Why Facts 1 and 2 important?

Kehoe and Midrigan (2007):

- assume lower menu cost for temporary markdowns
- match Facts 1 and (likely) 2, and other micro facts;
- decreasing hazard rates imply larger monetary nonneutrality (in menu cost model relative to Calvo)
- link between markdowns and macro is tight in the model – is it in the data?

Source of item-level heterogeneity?

- Experimentation? At odds with menu cost idea
- Kehoe and Midrigan (2007): smaller cost of temporary markdowns, and also i.i.d. idiosyncratic shocks
- Price discrimination á la Varian (1980)? – can use data on purchasing habits of ERIM households
- Golosov and Lucas with high elasticity
- Aguirregabiria (1999): prices are more likely to change right before or right after stockouts

Conclusion

- Very clear, well-written, useful paper
- Item-level hazard rates are declining for scanner data
- May or may not matter for macro menu cost models
- The nature of implied heterogeneity is not clear