

Accounting for Incomplete Pass-Through

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Pass-through is one of those terms in international economics used to reference a set of complex theoretical and empirical issues...

... usually in attempts to answer the question, "Why *exactly* do we care about exchange-rate fluctuations?"

Highly nuanced concept, elusive in theory, poorly measured in practice.

Not easily related to fundamentals and so its ultimate causes and welfare implications are hard to gauge.

As a result (and as Paul Krugman noted yesterday), the literature still has little to say on the "why" and "so what" of incomplete pass-through, empirically.

Why don't we know more?

As former Federal Reserve Governor Alan Blinder observed:

“The most prominent theories of price stickiness rely on variables that are either unobservable in principle or unobserved in practice.”

Confidential BLS import price data don't have quantities, which one must observe to test many of theories of price stickiness.

This paper develops a framework to identify the role of some of these key variables, and so assess the validity of various theories of price stickiness.

Comments

- 1) Importance of paper (market-specific studies) to sharpen international macroeconomic research agenda
- 2). Framework highlights growing correlation between dollar exchange-rate and commodity prices: Implications for literature.
- 3). Results on size and significance of menu costs for sticky prices similar to other work: emerging consensus?

Importance of market-specific studies to sharpen macro research agenda

A decade of debates in international macroeconomics using microfounded models has put the spotlight on local-currency price stability of imports

Different sources, usually classified under three headings

- 1) Local cost components in imported goods (nontradeable – distribution or labor to assemble imported components; tradable – i.e. local goods)
- 2) Optimal markup adjustment (independent of nominal rigidities)
- 3) Nominal rigidities

Understanding the relative importance of these sources is crucial for the development of international business cycle models, and especially for policy analysis purposes.

Important to understand sources of local-currency price stability.

Transmission of monetary and real shocks, e.g.:

Classical view of exchange-rate movements as relative price stabilizers (e.g. Obstfeld and Rogoff) versus more skeptical views (e.g. Betts and Devereux; Devereux and Engel);

Policy design, e.g.:

New open economy macro models shown us that nominal rigidities provide an argument for stabilizing more than the GDP deflator – the “international dimension of optimal monetary policy” .

What does the paper do?

It develops an approach to address these questions at the product market level.

Recent literature: Goldberg and Verboven (2001), Hellerstein (2006), Goldberg and Hellerstein (2007).

Data: coffee prices at commodity cost, manufacturer, and retail level.

Model: structural model of coffee industry.

Analyzes equilibrium response of prices to costs in a Markov perfect equilibrium.

Considers the role that nominal rigidities, local costs, and firms' markup adjustments play in observed price stickiness in particular market:

Punch-line of the paper:

- 1) Local costs contribute most to incomplete pass-through, 78%
- 2) Markup adjustment plays nontrivial role, 20%
- 3) Nominal rigidities (menu costs) play role in dynamics, only small role in incomplete pass-through over one year, 2%

Other key questions:

Question # 1: How large are menu costs?

Answer: Menu costs=0.22 percent of annual revenues per firm. Remarkably similar to other results in the literature. Very intriguing that same answers from different methods. Using deviations from firms' first-order conditions to identify repricing costs, Goldberg and Hellerstein (2007) find 0.44 percent revenue manufacturers, 0.12 for retailers. (Emi's upper bound: 0.33.) Using time-use data, Levy et al (1997) find retailer repricing costs 0.70 revenue and Dutta et al (1997) 0.59 percent of revenue.

Question #2: How significant are manufacturer menu costs (nominal rigidities) for observed price rigidity?

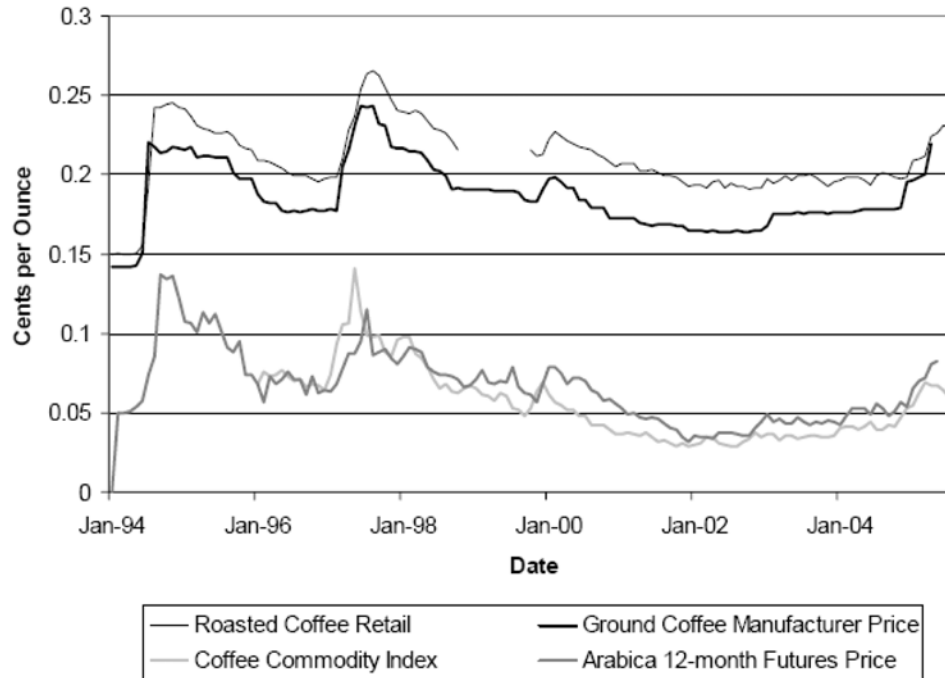
Answer: Delayed responses of prices to cost shocks occurs “almost entirely at the wholesale level”, like Goldberg and Hellerstein (2007). Nakamura explains 2 percent of incomplete pass-through: Goldberg and Hellerstein – 12 percent.

Table 1
Repricing Costs as a Share of Brand Revenue
 Percent

Beer Brand	Manufacturer		Retailer	
	Mean	Total	Mean	Total
<i>Britannia</i>	2.456 (.499)**	0.313 (.091)**	0.302 (.215)	0.079 (.064)
<i>Germania</i>	3.196 (.060)**	1.127 (.208)**	0.379 (.332)	0.208 (.179)
<i>Mexicana</i>	0.269 (.128)*	0.060 (.039)	0.078 (.054)	0.020 (.022)
<i>Hollandia</i>	0.306 (.386)	0.210 (.024)**	0.096 (.057)	0.029 (.019)
Overall	2.157 (.373)**	0.443 (.077)**	0.370 (.232)	0.121 (.009)**

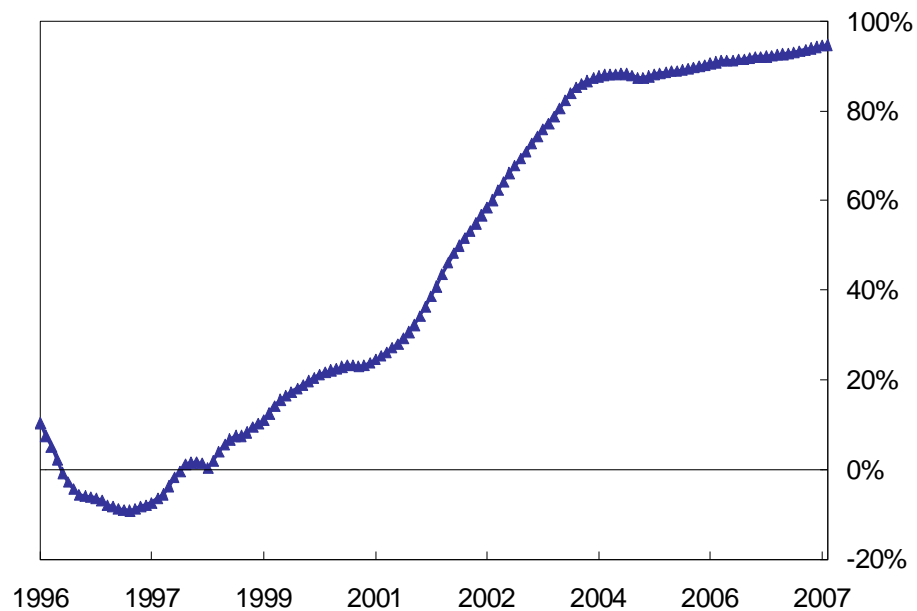
Figure 1: Results from Goldberg and Hellerstein (2007).

Figure 1: Retail, Wholesale and Commodity Prices



*The roasted coffee retail and ground coffee manufacturer prices are average prices from the Bureau of Labor Statistics database on consumer and producer prices. The Arabica 12 month futures price is from the New York Board of Trade. The coffee commodity index is a weighted average of the prices of different types of green bean coffee. The gap in the retail price series from Nov. 1998 to Sept. 1999 arises from missing data.

Figure 2: Where is the exchange rate?



Source: IMF International Financial Statistics, Authors' calculations

Figure 3: Ten-year rolling correlations between commodity prices and the dollar exchange rate.

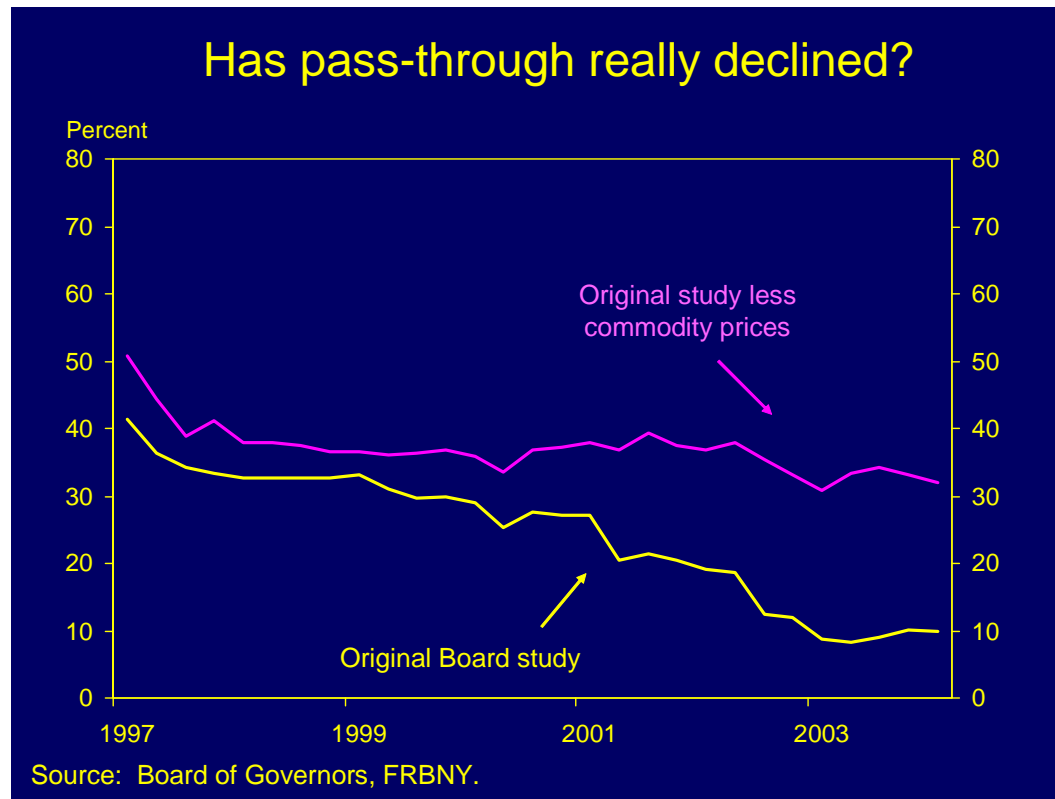


Figure 4: Implications of comovement of commodity prices and the dollar for pass-through.

At a recent Economic Advisory Panel at the NY Fed (group of academic and wall street consultants who meet periodically to review macro developments and discuss policy alternatives), one of our esteemed guests, in the context of a discussion of recent dollar fluctuations, stated that, "Exchange-rate pass-through is dead."

Has exchange-rate pass-through fallen? If so, why?

Conclusion

Great paper!

Example of the payoffs from closer interactions between macro-trade and industrial organization. Look forward to more applications and further development of the methodology.