Discussion of

‘Accounting for Incomplete Pass-Through’

by Emi Nakamura
Goal of the Paper: Estimate a structural model of incomplete pass-through of foreign cost shocks.

Long-run incomplete pass-through is decomposed into three channels:

- Local costs.
- Desired markup adjustment
- Price adjustment costs (undesired markup adjustment)

\[ p = (mc^L + mc^F)(1 + \mu) \]
This paper and that of Goldberg and Hellerstein (2007) are the first to incorporate price adjustment costs as a third determinant of incomplete pass-through in structural estimation.

The paper combines industry-specific data, econometrics, IO theory, and computational methods.
Long-Run Pass Through in the Data

Estimate

\[ \Delta \ln p_t = \alpha + \sum_{j=0}^{\infty} \beta_j \Delta \ln mc_{t-j}^F \]

Finding

\[ \sum_{j=0}^{\infty} \beta_j = 0.26 \]

⇒ Long-Run Incomplete Pass Through = 74%.
Long-Run Pass-Through Decomposition

- Local Costs: 78%
- Desired Markup Adjustment: 20%
- Price Adjustment Costs: 2%
• Local costs is the only block of the model that is nonstructural: $m^L$ is assumed to be time invariant and estimated outside of the dynamic model (up to a constant).

• Yet, local costs turn out to explain the bulk of long-run incomplete pass through (78%).

• Recommendation: Add structure to the supply side of the model. Specifically, estimate a production function for the coffee industry. One possible outcome:

$$p = (mc^L(q) + mc^F)(1 + \mu)$$
Why Do Desired Markup Adjustment Explain a Significant Fraction of Long-Rune Incomplete Pass Through?

The demand function:

\[ \ln q = a - bp \]

\[ \Rightarrow \frac{d \ln q}{dp} = -b \]

\[ \Rightarrow \frac{d \ln q}{d \ln p} = -bp \]

⇒ The price elasticity is increasing in the price.

⇒ The markup is decreasing in the price.

⇒ The markup is decreasing in \( mc^F \).
Real Progress: A Dynamic Model of Price Adjustment Costs

\[ p_t \text{ solves } \begin{cases} D(p_t) + (p_t - mc_t)D'(p_t) + \beta E_t v_p(p_t, mc_{t+1}) = 0 \\ \text{or} \\ p_t - p_{t-1} = 0 \end{cases} \]

Result: Price adjustment costs explain a negligible fraction of long-run incomplete pass-through (2%), but are important for explaining delayed pass-through.

Observation: Price adjustment costs are the only endogenous source of dynamics in the model; \( \Rightarrow \) They must explain all of the delayed pass-through predicted by the model.