Discussion of “The Inflation Persistence Project”

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Intellectual currents of last decade

• Substantial research investigating the macroeconomic consequences of “nominal frictions” for
  – Workings of economy in response to monetary and other shocks
  – Design of policy rules

• Models emphasize microeconomic foundations; apply dynamic optimization approach to price and wage dynamics; and are designed to be “policy relevant.”
Models…

• Circa 1995, there were no small fully articulated models that could be used to study monetary policy;
• As we near 2005, there are a huge number, each emphasizing a different set of frictions. Examples:
  – Wage frictions versus price frictions
  – Taylor versus Calvo price dynamics
  – Time dependent versus state dependent price dynamics
• How are we going to “discipline frictions”?
Disciplining frictions: the IPN as a template

- If we build price stickiness into our models so as to match macro dynamics of inflation/real activity and if we think micro foundations are important, then we can discipline frictions
  - by looking into the actual process by which firms undertake pricing
    - Studies of price adjustment (cpi and ppi)
    - Studies of pricing process (surveys)
  - by looking into the dynamics of inflation
    - Across countries as in “persistence regressions”
    - Evaluating the predictions of structural models
Job of discussant

• Bob Hall’s instruction: a discussant should place a paper in the “greater context of his own research”. [Only partly kidding]
• I’ll do some of that, by way of motivating why I am so keenly interested in the emerging results of the IPN
• More important: place the IPN in the greater context of your (the Euro System’s) own research
A team approach to research

• Motivation and support from governing council (as we heard last night from Ottmar Issing)
  – Motivation: if inflation persistence is important for policy design, then we should try to measure it
  – Financial support: huge number of manhours and other budgetary items
  – Access support: requests to national statistical agencies (critical role for Eurosystem stimulating research activity – including information production -- in Europe)
Team Approach

- Senior research managers
- ECB staff
- Eurosystem staff
- "Academic" consultants (Gali, Cecchetii, Levin: note that two of these have worked (or are working) for FRS and made substantial research contributions)

- Nice balancing of coordination (for comparability), competition (by team members), and communication (within IPN and with others in this and prior meetings of IPN)
Why I am so interested in IPN

- My recent work has been on
  - Positive implications of macro models with pricing frictions, specifically SDP “menu cost” models
  - [DKW, DK 2004]
  - Optimal policy design under commitment in these models. [REStud 2003]
  - Understanding the suboptimal outcomes that can arise under discretion in even simplest TDP model [QJE2004].

- In this work, I have learned that details of pricing structure matters a great deal. Examples:
  - SDP can be very different than SDP
  - Hazard structure matters: welfare costs of inflation 3 times larger with Calvo rather than Taylor
  - Coordination failure under discretion seems less likely if “sticky plans” rather than “sticky prices”
Research on SDP

- Want to show you some work (joint with M Dotsey) that illustrates why I am so interested in IPN and its microdata collection.
Steady-state price adjustment frequency under modest inflation (w/Dotsey 2004): Focus on line with boxes. This looks like Europe to me in terms of lower panel.
Implications for dynamics

Money and Prices

Output

Marginal Cost (wage rate)

Inflation
Compare to Christiano material we just saw
Most sticky price models cannot produce this inflation delay (as stressed by Mankiw-Reiss):
Why is DK-SDP so different from other models?

• Shape of “lag weights”
• Larger number of states (SDP means carry fractions of firms with past prices as part of endogenous state vector)
• Price adjustment timing is endogenous: it is optimal to adjust when relative price is badly out of line with optimal decision. The more the price level moves up, the higher the likelihood that a given firm will find it optimal to adjust
Adjustment timing: clustering of price adjustments

![Graph showing price adjustments over time with different models: Exact Price Level, Linear Aggregate, and Fixed Hazard. The graph also shows inflation and fraction adjusting over the same time period.](image-url)
Challenges to my research raised by IPN and related BK work

- Significant heterogeneity across sectors in frequency of adjustment: “no representative product” (thesis work under way at BU);
- Significant micro level heterogeneity leading to lots of price decreases while there is also positive inflation on average (DKW2005)
- Work to match
  - Micro estimates of hazards (do do this right for DKW model need firm level output, employment, and data)
  - Macro estimates of adjustment rates (contrast last figure): Are the DK responses of adjustment rates too volatile
Bottom line

• Lucas: “Beware of theorists bringing free parameters.

• IPN provides basic micro and macro facts that will
  – discipline work on nominal frictions;
  – stimulate new work on mechanisms

• Example of latter: German evidence on price adjustment and wage changes
Greater context of your own research

• Large-scale projects like this have the prospect of changing the way macroeconomists think about important topics.

• How to continue the work of IPN?
  – Eurosysteem can play a key role in
    • Integrating existing information
    • Designing new information sources.
  – Fascinating integration of “inflation expectations data”; survey of pricing practices;
  – Linked micro data sets on prices, wages, output, labor, materials