Discussion of "Service Inflation and Missing Pass-through" by Zhesheng Qiu, Yicheng Wang and Le Xu

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Brief Summary

- interested in very recent periods when service inflation was not co-moving with the core inflation
- a period "said" to be driven by large cost shocks
- rationalize the fact using a structural pricing equation with (1) Calvo pricing, (2) production network and (3) strategic complementarities
  1. key argument
     - the cost pass-through into service prices is consistently limited vs. that of non-service sector prices is large (both are not time-dependent)
  2. bigger implications
     - positive correlations in the past were mostly demand-driven $\Rightarrow$ the limited cost pass-through is masked
     - with larger cost shocks during Covid-19 episode, pass-through differential between non-service and service sectors drives the inflation wedge

General Comments

* An extremely interesting and well executed paper

* Mostly some suggestions and rough thoughts here

- micro-foundation for pricing the service goods
- roles for calvo-pricing, production network and strategic complementarities for pricing
- fitting into the literature and alternatives
- additional trivial things

Recap

- Structural Pricing Equation:
- $\hat{P}^i_t = \theta \hat{P}^i_{t-1} + \lambda \sum_{s=0}^{\infty} (\beta\theta)^s \mathbb{E}_t [\phi_i \underbrace{\sum_{j=1}^{N} \alpha^j_{i,t+s} mc^j_{t+s}}_{mc^i_{t+s}} + \gamma_i \hat{P}^i_{t+s} + \xi^i_{t+s}]$
  - sector i
  - service sector: $\phi_{j \neq i} \to 0$: shocks premeated from other sectors mc^j_{t+s} through the production network have little impacts
  - service sector: $\phi_i \to 0$: price exhibit little sensitivities to its own marginal shocks
- Regression Analysis: this holds true regardless of γ_i, pricing exposure to complementarities; and the myopic price setting for $\lambda = 1 - \theta$

1: micro-foundation for pricing the service goods?

- when taking the NK structural pricing model very seriously into the data by fitting a large panel of sector-level prices including services, need very careful argument (this is somehow missing from the existing literature for complex reasons)

- service producer: labor intensive, local market exposure (customer base concern, market concentration); some of the existing modeling setup us not a big issue for manufacturing firms/sectors

- for accurately estimating ϕ_i:

1. measurement issue of labor cost (routine vs. skilled wage premium), some heterogeneities

2. measurement of "marginal" cost of producing an "service" output

3. quality of services? measurement of prices of services?

1: micro-foundation for pricing the service goods?

- if theory is taken seriously, need to explain why the pass-through is low for service sectors
- Exchange-rate Pass-through literature: finite number of producers gives role for market shares (Atkeson and Burstein, 2008)
- for a service provider: a bit of more micro-foundation would be needed plus empirics based on disaggregated service-level prices
- production network concern 1: how to think about inputs and outputs of service producer's technology
- production network concern 2: what could be the costs inherited from non-service sectors into service pricing function?

2: roles of important model ingredients?

- currently, taking several ingredients and do horse-racing, cost pass-through matters the most for explaining the missing co-movement

1. taking Calvo-pricing, implications for monetary policy by talking about the roles of price rigidity and differential cost pass-through

2. production networks can be very important for certain purposes (Baqaee and Farhi, 2021).
   - Need to highlight why we need to think about cross-sector cost spillover for service prices at the first place

3. taking pricing strategic complementarities to think about (exchange-rate) pass-through (Auer and Schoenle, 2016 JIE), firm-size matters.
   - size seems not matter for this paper but the current regression setting is not at the service firm provider level.

3: fitting into the literature

- currently sitting at the boundaries of several literature strands: exchange-rate(cost) pass-through, New Keynesian models for understanding inflation dynamics, NK with production network, market concentration and price rigidity ...

  - so far seems to make sure that cost pass-through matters only.

  - though, may need a clearer focus for general motivations. some alternatives:

  - missing inflation from services sector (taking a standpoint of understanding the asymmetry, not merely a missing co-movement) vs. 08-09 downside deflation were closely tracking each other

  - a two-sector (service and non-service) NK models with deviating features for the service sector. explore why there is "conditional" co-movement. pass-through can be a result but not a *driver* for the comovement

  - optimal monetary policy design given differential inflation dynamics across sectors

Additional Comments

- running the regressions for different subsamples? pre-2020, post-08 and pre-2020 etc., time-varying pass-through?
- some extra discussions on why we care about service and service inflation drawing from "literature"
- to justify that periods of Covid-19 pandemic are periods of large cost shocks (Guerrieri et al., 2020; Baqaee and Farhi, 2021)
- work harder on why production network may work at the first place, even if it turns out cross-sector spillover of cost shocks is limited; time-varying input-output matrix in particular during the Covid-19 seasons?
- perhaps a quantitative model of 2 or more sectors to talk about demand-driven and cost-push shocks in NK framework
- exposure to "referee shocks": if you are taking a NK framework, someone would be curious about what about monetary policy

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- exposure to "referee shocks": if you are taking a NK framework, someone would be curious about what about monetary policy
- a really fascinating paper and I am looking forward to see the following up works

Best of lucks and thanks a lot!