Discussion of "Anatomy of the Phillips Curve:
Micro Evidence and Macro Implications" by

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Summary

- Recent measurements of "the Phillips Curve" suggest a very flat (or at least flattening) slope

- This paper: "The report of [its] death was an exaggeration"

Summary

- Approach: Dynamic pass-through regressions at the firm level on Belgian quarterly micro-data from 1999 to 2019

- Regression results imply
  - a sizable elasticity of inflation to real marginal cost
  - a low elasticity of mg. cost to the output gap
  - all is well with the world

Summary

- Quantitatively

  - elasticity of inflation to real mg cost $\lambda \approx 0.06$

  - elasticity of the output gap to real mg cost $\sigma_y \approx 0.2 - 0.3$

  - implied slope of the output gap Phillips curve $\kappa \approx 0.01 - 0.02$

    consistent with values in Rotemberg & Woodford (1997); Woodford (2003b)

Summary

- Along the way, find

    ○ strong strategic complementarities : elasticity of firms' desired prices to competitors' prices $\Omega \approx 0.55$

    ○ substantial nominal rigidity: implied Calvo parameter $\theta \approx 0.7$

    consistent with LR values in Amiti, Itskhoki & Konings (2019), evidence on freq(Δp) from micro data

Discussion

- Excellent paper with a clear "bottoms-up" approach to estimating structural Phillips curve params from micro data

- Reinforces the point that we should no longer attempt to estimate slope of the Phillips curve using aggregate data

- Empirical approach informed by canonical New Keynesian model with Calvo price rigidities + str. complementarities → provides benchmark estimates for the literature

- Gives valuable guidance for where to direct modeling and measurement efforts

Discussion

From macro to micro

↓

From model to data

↓

Extensions

From Macro to Micro

- Estimating the structural Phillips curve: key for monetary analysis; fraught with challenges

- Endogeneity makes very clear the limitations of trying to use aggregated data (?)

From Macro to Micro

- Rather than attempting to estimate an aggregate structural equation, this paper uses micro data to get measures of the micro structural parameters

    - specifically: elasticities of firm-level prices to firm-level variation in mg cost and in competitors' prices

    - generalizing static LR pass-through regressions (e.g., Amiti et al. (2019)) to dynamic SR pass-through regressions

- Amiti et al. (2019) – flex price firm, annual data: static

$$p_{ft} = \Omega_{mc} \left(mc_{ft}^n + u_{ft} \right) + \Omega \, p_{it}^{-f}$$

and cannot reject null that $\Omega_{mc} = 1 - \Omega$

- Here – Calvo firm, quarterly data: dynamic pass-through from the theoretical reset price of Calvo model:

$$p_{ft}^o = (1 - \beta\theta) \sum_{\tau=0}^{\infty} (\beta\theta)^\tau \, E_t \left\{ p_{ft+\tau}^{flex} \right\}$$

$$p_{ft+\tau}^{flex} = \left[(1 - \Omega) \left(mc_{ft+\tau}^n + u_{ft+\tau} \right) + \Omega \, p_{it+\tau}^{-f} \right]$$

use

$$p_{ft} = (1 - \theta)\hat{p}_{ft}^o + \theta p_{ft-1} + \varepsilon_{ft}$$

$$\hat{p}_{ft}^o = (1 - \Omega) \, DPV(MC_{ft,T}^n) + \Omega \, DPV(P_{it,T}^{-f})$$

Discussion

- Advantage of using micro data is not just that it helps address the endogeneity in the terms of the aggregate Phillips curve

- I would add: Micro variation allows us to estimate micro elasticities without needing to fully specify the macro model

- In this particular context: we do not even know the form of the structural Phillips curve

    ○ e.g., form of lags and/or leads of inflation and/or slack?

- My main Q: to what extent can we unshackle the empirical specification from the Calvo-based NKPC assumptions?

Relaxing the Empirical Specification

- Allow for deviations to

  - dispersed information and imperfect common knowledge - e.g. Woodford (2003a) dampening of HOBs

  - non-Calvo price rigidity - e.g. **?** estimate menu cost + errors in pricing is close to matching U.S. data

  - bounded rationality - e.g. apply **?** finite horizon optimization to the optimal reset price

- For example, for small h, would be interesting to see unconstrained regression coeffs in

$$\hat{p}_{ft}^o = \sum_h \phi_{1,h} mc_{t+h} + \sum_h \phi_{2,h}(p_{it+h}^{-f})$$

Conclusion

- A very nice paper, both because of the clarity of its analysis and contribution, and also because of the avenues for further research that it opens

References I

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