Discussion of "Uncovering the Costs of High Inflation" by Ken Miyahara, Alberto Cavallo & Francesco Lippi

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Summary

Big-picture question:

- New Keynesian models predict inflation is costly through price dispersion
  ...but measured costs are small. **Are they really?**

This paper:

- Add price-research frictions to sticky-price model with asymmetric CES profit function

What it finds:

- Misallocation costs rise steeply with trend inflation: from 50 bp of GDP at 18% to 281 bp at 86%
  - ↪ vs. an essentially *flat* menu-cost-only benchmark
  - ↪ information friction is what makes inflation bite due to precautionary pricing

My discussion

Paper:

- Elegant model with transparent mechanism and quantitative bite (you should read it!)

My plan:

1. Summarize the main insights
2. What is the effect of *other features* of the inflation process? $\Longrightarrow$ a (toy) extension
3. Comments and suggestions

Main insight: a three-step argument

1. **Asymmetry ⇒ precautionary pricing**
   - With CES demand, forgone profits punish negative gaps far more than positive
   - As information ages (τ), firms hedge up: return point $x^*(\tau)\uparrow$ (stronger with trend inflation μ)

   $\Longrightarrow$ *additional* source of price-gap dispersion

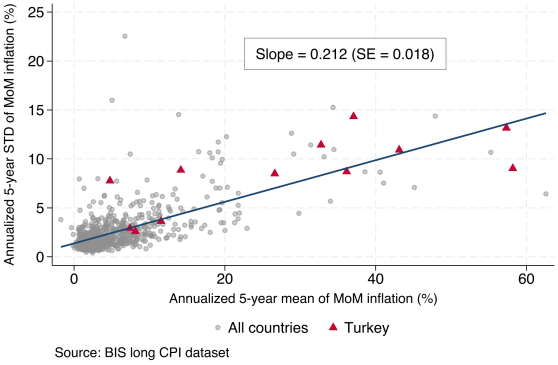
2. **Measurement: data only bound σ^2 from above**

$$\underbrace{N_a \tilde{\mathbb{E}}\left[(\Delta p - \mu\tau^a)^2\right]}_{\text{Observed price-change dispersion}} = \underbrace{N_a \tilde{\mathbb{E}}\left[(x^*(\tau) - x^*(\tau_0))^2\right]}_{\text{Markup-target dispersion (info friction)}} + \underbrace{\sigma^2}_{\text{True idiosyncratic vol}}$$

3. **Why do we care?**
   - *Smaller* σ^2 ⇒ price adjustment responds more strongly to trend inflation (better fit of the data)
   - Stronger hedging ⇒ more dispersed markup targets and price-gaps ⇒ larger misallocation cost

What about *other features* of the inflation process?

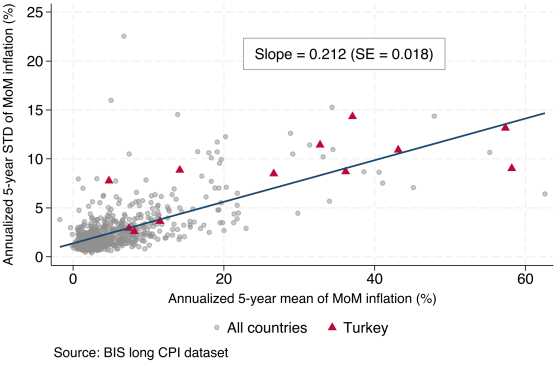
- High-inflation regimes are also high-volatility regimes



(a) Level vs. volatility of inflation

What about *other features* of the inflation process?

- High-inflation regimes are also high-volatility regimes
- . . . and high-uncertainty regimes for firms



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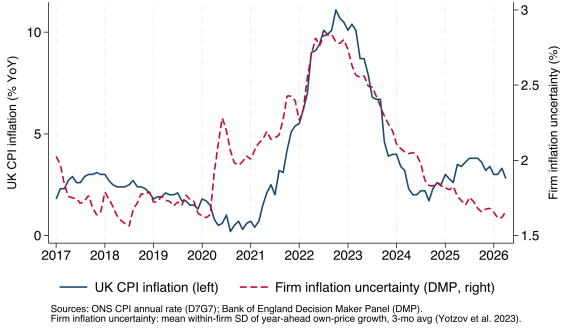


(b) Inflation vs. firm uncertainty about own future prices

A (toy) extension: let inflation be volatile and unknown

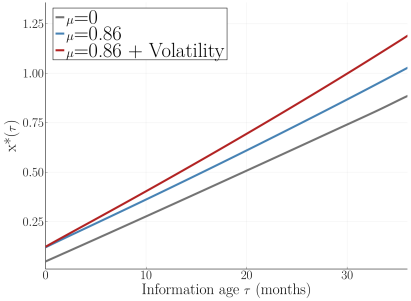
One simple experiment (surely there are better ways!):

- Let gap inherit extra inflation-driven volatility that grows with inflation level

$$dz_i = -\mu\, dt + \sigma\, dW_i + \sigma_\pi(\mu)\, dW_\pi$$

- Trend inflation is known, but *realized* inflation path is uncertain
- When firms learn about idiosyncratic shocks, they simultaneously learn about inflation
- Assume $\sigma_\pi(\mu) = 0.1\mu$ (crude calibration of "some inflation information is free")
- Problem of the firm remains the same

Volatility strengthens precautionary motive

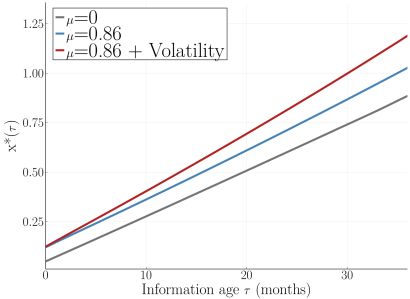


Return point $x^*(\tau)$

- With volatile inflation, firms now face more uncertainty and target higher markups

$\Longrightarrow$ precautionary hedging is even stronger

Volatility strengthens precautionary motive . . . and misallocation cost could be *larger*



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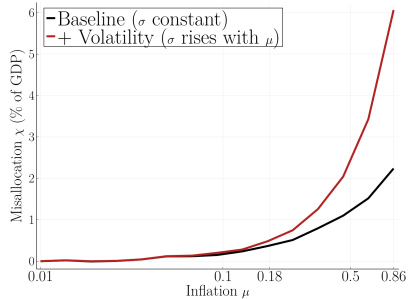

Misallocation cost $\chi(\mu)$

- With volatile inflation, firms now face more uncertainty and target higher markups

$\Longrightarrow$ precautionary hedging is even stronger

- At high inflation the cost could be much larger

Two comments & suggestions

Comment 1: which way does hedging push?

- Upward hedging hinges on the CES asymmetry; other demand systems can flip it

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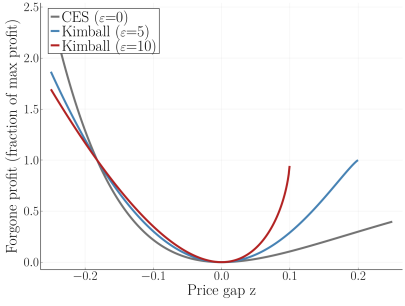

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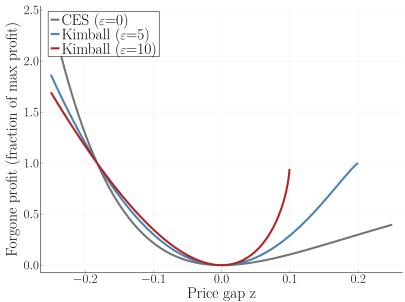

- **Suggestive evidence:** firms made more uncertain about agg. growth cut prices Kumar, Gorodnichenko & Coibion (2022)
- Interested in seeing how robust the upward hedge is across demand systems

Comment 2: disciplining the information friction

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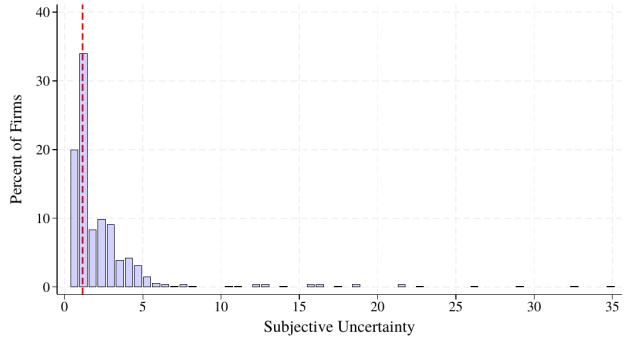
- How do we pin down cost of research κ_r?
- Afrouzi, Flynn & Yang (2024): elicits firms' subjective uncertainty about own optimal reset price

"If your firm was free to change its price (i.e. suppose there was no cost [...]) today, what probability would you assign to each of the following categories of possible price changes the firm would make?"

Figure B.1: Distribution of Subjective Uncertainty in the New Zealand Survey Data



- Suggestion: leverage belief-elicitation + price-change data to discipline $(\kappa_r, \kappa_a, \sigma^2)$ jointly

Conclusion

- Very nice paper! Clean mechanism that significantly raises cost of high inflation (+ valuable technical contribution as a bonus)
- **What's next?**
  - Further exploration of the precautionary mechanism
  - More disciplining of the information friction

    Eager to see more papers on these topics!