A Pitfall of Cautiousness in Monetary Policy

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BANQUE DE FRANCE

EUROSYSTÈME

- *"You just do what you think is right and you temper [with] a consideration [for] uncertainty. In other words, in a dark room you move with tiny steps."* Mario Draghi March 2019

- *"When unsure of the potency of a medicine, start with a somewhat smaller dose"* Jerome Powell Jackson Hole 2018

- To give theoretical gloss, cite Brainard (1967) (eg Blinder (1999) Bernanke (2007), Carney (2017), Praet (2018), Villeroy de Galhau (2018), Schnabel (2022))

Brainard Conservatism Principle

Consider a simple inflation process $\pi_t = \pi^* - \phi i_t + \varepsilon_t$

- Brainard uncertainty relates only to **instrument** uncertainty (variance of ϕ)

    - (Apply certainty equivalence under symmetry and linearity for state uncertainty (Theil (1957)))

- Instrument uncertainty implies that the variance of the targeted variable is increasing in i_t

    - If apply $\tilde{i} = \frac{\varepsilon_t}{\phi}$ then $E[(\pi_t - \pi^*)^2] = \sigma^2.\tilde{i}^2$

- With instrument uncertainty there is a trade-off between reducing the expected target gap, $(E[\pi] - \pi^*)^2$, and policy induced variance

- **Optimal policy is attenuated:** $\hat{i} = (\frac{\bar{\phi}^2}{\bar{\phi}^2 + \sigma^2})\tilde{i}$

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Dupraz *et al* - the Pitfall

What if inflation is determined by $\pi_t = E[\pi_t] - \phi i_t + \varepsilon_t$

- Brainard attenuation is counterproductive
- Consider a positive inflation shock $\varepsilon_t > 0$ observed by all
- If agents realise that the central bank will attenuate its policy, then $E[\pi_t] > \pi^*$
- But this pushes up π_t which in turn pushes up $E[\pi_t]$
- The central bank attenuates its reaction to this ...
- In equilibrium, the central bank has to implement the certainty equivalent policy
- But inflation is further from target!
- The more the central bank is forced to act, the greater the policy induced variance, the more the central bank is willing to trade-off a deviation from target to reduce this.

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This result is very general and applies to a New-Keynesian as well as a New-Classical Phillips curve.

Two extensions

- Some scope for attenuation if inflation expectations are not based on full information

    - Illustrated in the paper using a sticky-information model
    - But central bank has to eventually converge to track the natural rate of interest

- Root causes are discretion and concerns about inflation deviations

    - Solution à la Rogoff (1985) is to appoint less risk-averse central bankers
    - ie - central bankers who care less about inflation variance than society does
    - But never optimal to go to certainty equivalence

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What can this model tell us about how central banks should respond to instrument uncertainty?

- Can apply to a broad range of circumstances:
    - uncertainty about the IS curve (or monetary policy transmission more generally).
    - the increasing risk of sunspot equilibria (eg banking or financial crisis)
    - use of new instruments
- Attenuation different from gradualism (Woodford (2003))
- Instrument uncertainty is a genuine problem
    - The optimal solution is not to pretend it doesn't exist
    - No easy way to calibrate appropriate response
- But risk in assuming that inflation expectations are unaffected by acting cautiously
- Useful to have instruments that mitigate transmission risk (eg TPI)

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