BeWi301.tex

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Learning, Stabilization and Credibility:
Optimal Monetary Policy in a Changing Economy

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- Issue
  - Optimal monetary policy
  - Model uncertainty (parameter uncertainty)
  - Learning, estimation
  - Policy response: Caution or aggressiveness
- Alternatives
  - C: Certainty-equivalent policy, passive learning
  - M: Myopically optimal policy, passive learning (Brainard 67)
  - D: Dynamically optimal policy, optimal learning (experimentation)
- Policy response: Caution < Aggressiveness
  - Brainard: Normally M < C but sometimes M > C (Söderström 02)
  - Wieland 98, 00: M < D (<) C
  - Ellison-Valla 01: D < M < C

- Extensive comment on Ellison-Valla (different setup than Wieland 98, 00)
  - More realistic model uncertainty (continuous rather than discrete)
  - Reproduced Wieland results
  - Comparison not yet complete
    - ∗ Intuition/explanation of differences?
    - ∗ Graphs different from Ellison-Valla
    - ∗ Role of output-gap target, inflation bias?

- Definition of caution/aggressiveness?
  - Policy response? Variable? Instrument or target?
  - Focus on inflation (target variable)

$$\pi_t = \pi_t^e - \frac{b_{t|t-1}}{b_{t|t-1}^2 + \omega}\,\phi z_t \qquad \text{(C)}$$

$$\pi_t = \pi_t^e - \frac{b_{t|t-1}}{b_{t|t-1}^2 + v_{t|t-1}^b + \omega}\,\phi z_t \qquad \text{(M)}$$

M < C

- Focus on deterministic component of output gap (target variable)

$$y_t = \beta(\pi_t - \pi_t^e) + \mu_t$$
$$\tilde{y}_t \equiv b_{t|t-1}(\pi_t - \pi_t^e) + \phi z_t$$

$$\tilde{y}_t = \left[1 - \frac{b_{t|t-1}^2}{b_{t|t-1}^2 + \omega}\right]\phi z_t \qquad \text{(C)}$$

$$\tilde{y}_t = \left[1 - \frac{b_{t|t-1}^2}{b_{t|t-1}^2 + v_{t|t-1}^b + \omega}\right]\phi z_t \qquad \text{(M)}$$

C < M

- Caution/aggressiveness depends on target variable
- Instrument rate usually more closely associated with output gap than inflation