Optimal Time-Consistent Monetary Policy and Multiple Equilibria

Discussion

Chris Edmond
NYU Stern

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Overview

• Optimal monetary policy games without commitment
  – not only embarrassingly many equilibria in trigger strategies
  – but also multiplicity of equilibria in Markov strategies

• So what?
  – optimal policy calculations often use approximations around steady state
  – are these reliable if multiple Markov equilibria?

• Eggertsson and Swanson argue
  – multiplicity a consequence of within-period timing

    usual Stackelberg timing $\Rightarrow$ multiple equilibria

    their simultaneous timing $\Rightarrow$ unique equilibria
Environment

- A ‘standard new Keynesian’ model
  - representative household likes final consumption and leisure
  - perfectly competitive final good
  - monopolistically competitive intermediate goods
  - labor only primary factor of production
  - intermediates set nominal prices every 2nd period
  - constant velocity money demand

- Same as King and Wolman QJE 2004, except for timing
Lever and Result

• Lever
  – no endogenous state variables, no exogenous shocks
  – so conditional expectations are constants

Markov equilibrium = non-stochastic steady state

• Result
  – with simultaneous timing, unique steady state
  – with Stackelberg timing, multiple steady states
  – characterization of optimal policy in full nonlinear model
Intuition

• Multiplicity in King-Wolman
  – if price setters expect high inflation, set high prices
  – policy authority validates expectation to avoid relative price distortions
  – conditional expectations a function of policy instrument

• Uniqueness in Eggertsson-Swanson
  – conditional expectations are constant, not a function that policy authority takes as given
Interpretations

• Eggertsson and Swanson conclude
  – apparent multiplicity figment of auxiliary timing assumption
  – multiplicity not ‘intrinsic’ to new Keynesian model

• I am not so sure
  – counter to King and Wolman QJE 2004, not general result
  – conjecture: multiplicity would still obtain in Albanesi, Chari and Christiano RES 2003
  – conjecture: simultaneous timing may spawn multiplicity in related models (analogous to Cournot competition)
Other Remarks

• Peculiar model
  – characterization of equilibrium set relies heavily on model having no state variables
  – cannot be easily extended to models with shocks