Equilibrium Uniqueness and Forward Guidance with Inconsistent Optimal Plans

Authors: J. Campbell and J. Weber

Discussion: D. Andolfatto

2018 Bank of Canada Annual Conference on Inflation Targeting

Motivation

Motivation

- Good news: Real economy seems to be doing fine.

Motivation

- Good news: Real economy seems to be doing fine.

- Bad news: New Keynesian economy not doing so well.

Motivation

- Good news: Real economy seems to be doing fine.

- Bad news: New Keynesian economy not doing so well.

  - Pathologies: (i) Noncredible off-equilibrium threats necessary for "active" interest rate rules; (ii) Interest rate paths associated w/ multiple of equilibria; (iii) Forward guidance puzzle.

Motivation

- Good news: Real economy seems to be doing fine.

- Bad news: New Keynesian economy not doing so well.

  ○ Pathologies: (i) Noncredible off-equilibrium threats necessary for "active" interest rate rules; (ii) Interest rate paths associated w/ multiple of equilibria; (iii) Forward guidance puzzle.

- How to fix these problems in New Keynesian economy?

Motivation

- Good news: Real economy seems to be doing fine.

- Bad news: New Keynesian economy not doing so well.

  ○ Pathologies: (i) Noncredible off-equilibrium threats necessary for "active" interest rate rules; (ii) Desired interest rate paths associated w/ multiple of equilibria; (iii) Forward guidance puzzle.

- How to fix these problems in New Keynesian economy?

- How might fixing these theoretical problems help inform real-world policy?

Standard New Keynesian Model

- 3-equation model with one-time cost-push shock and quadratic loss function over inflation and output gaps.

- How to minimize loss? By spreading adjustment over time ($\Rightarrow$ PLT).

- How to do that? By promising to raise policy rate off into distant future.

- Problem 1: requires "Odyssean" commitment to forward guidance.

- Problem 2: requires implausible "open mouth operations" to select desired outcome among many equilibria consistent with forward guidance.

Sequentially Rational Policy

- Both problems vanish if central bank cannot (or does not) bind itself to future time-inconsistent behavior.

- Constrained-efficient policy trades off inflation and output today, then "divine coincidence" forever after.

  - Outcome in this case resembles IT, not PLT.

- Unique implementation, but some loss associated with failure to smooth shock over time.

Limited Commitment

- Campbell and Weber argue that there is a middle ground.

- Suppose central banker can remain committed in each future period with some probability (alternatively, for finite period of time).

- Proposition 1: if commitment not too strong, then Ramsey solution (s.t. limited commitment) can be implemented uniquely with promised interest rate path.

  ○ Some desirable forward guidance possible w/o forward guidance puzzle.

  ○ Constrained-efficient solution continues to resemble more IT than PLT.

Comment 1

- Is it reasonable to suppose that any central bank decision-making body can commit to a sequentially irrational action?

- Actions that look like commitment can be better explained in other ways.

    ○ Why did Hamilton recommend repaying the revolutionary war debt?

- Does it matter the way we model "commitment?"

    ○ Suspect that uniqueness result is sensitive to "commitment technology."

- Aside: RE continues to do a lot of heavy lifting here (Re: Marty).

Comment 2

- Central bank objective given by $W = \sum_t \beta^t U(\pi_t, y_t)$.

- Typically thought of as a SWF that CB is "committed" to maximizing.

- Maximizing W s.t. SR does not achieve desired smoothing.

- Why not replace W with $\hat{W} = \sum_t \beta^t U(\pi_t, \pi_{t-1}, ..., y_t, y_{t-1}, ...)$.

- If we are assuming that CB can commit to maximize a given objective, why not endogenize the objective? (SR soln to $\hat{W}$ will feature smoothing that is desired under W).

Comment 3

- Sequentially rational (zero commitment) policy implements unique equilibrium, but allocation suboptimal.

    ○ Evidently, not much commitment necessary to recover most of welfare loss (Schaumburg and Tambalotti, 2007).

    ○ Is this important? How much is lost (quantitatively) by not smoothing this shock over time?

    ○ Can we think of any historical examples? Can we think of a situation where we wish we had commitment to smooth a cost-push shock? And not having it cost us big time?

Conclusions

- Interesting how abandoning "commitment technology" seems to render more attractive theory.

- Check out Fernado Martin's research program – monetary and fiscal policy absent commitment.

- How does what we have learned here help inform policy makers?

- Main contribution: offers plausible theoretical justification for use of forward guidance.

- Should central banks feel comforted?