Discussion of

“The Taylor Principle in a New Keynesian Model with Capital Accumulation, Government Debt Dynamics and non-Ricardian Consumers”

by Campbell Leith and Leopold von Thadden

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Motivation

Conference

*The Implications of Alternative Fiscal Rules for Monetary Policy*

⇒ very intuitively appealing

Paper

*The Taylor Principle in a New Keynesian Model with Capital Accumulation, Government Debt Dynamics and non-Ricardian Consumers*

⇒ very interesting issue
What’s the framework?

• Stripped down New Keynesian model
  - consumers optimise
  - firms optimise subject to Calvo contracts in prices
  - labour markets perfectly competitive
  - no real rigidities, habit formation or capital adjustment costs

2. Non-Ricardian consumers
  - Blanchard-Yaari model of perpetual youth

3. Monetary and fiscal policy
  - monetary rule
  - government budget constraint and fiscal rule
What question is addressed?

Intuition 1: Taylor principle

\[ f^M > 1 \; \text{in} \; \ r_t = r + f^M (\pi_t - \pi) \] to achieve determinacy.

Intuition 2: Taylor-Leeper conjecture

\[ f^M > 1 \; \text{in} \; \ r_t = r + f^M (\pi_t - \pi) \] and
\[ f^F < 1 \; \text{in} \; \tau_t = \tau + f^F (l_t - l) \] to achieve determinacy

Intuition 3: Dupor conjecture

\[ f^M < 1 \; \text{in} \; \ r_t = r + f^M (\pi_t - \pi) \] to achieve determinacy if we include capital as a state variable.
And the answer?

Intuition 4: Leith-von Thadden conjecture

Need $f^M > 1$ in $r_t = r + f^M (\pi_t - \pi)$ and $f^F < 1$ in $\tau_t = \tau + f^F (l_t - l)$ to achieve determinacy if we include capital as a state variable and consumers are non-Ricardian.
Comment on the modelling strategy
(with endogenous labour supply)

Blanchard-Yaari framework
- consumers face constant probability of death $\xi$
- new cohort of size $\xi$ born each period
- some consumers are very old and have large “nonhuman” wealth

Utility function
\[
\int_{t}^{\infty} \left[ \ln c_{s}^{j} + \chi \ln \left( \frac{M_{s}^{j}}{p_{s}} \right) - \eta n_{s}^{j} \right] \exp\left( - (\xi + \theta)(s - t) \right) ds
\]
- leisure is a normal good
- consumption is a non-normal good
- very old consumers demand lots of leisure
- some consumers have negative labour supply
Comment on question addressed

Intuition 3: Dupor conjecture

Need $f^M < 1$ in $r_t = r + f^M (\pi_t - \pi)$ to achieve determinacy if we include capital as a state variable.

Standard New Keynesian model, continuous time, endogenous capital

- Suppose Taylor principle holds
- Consider shock to inflation
- Central bank raises real interest rate in response to shock
- By arbitrage, return on capital must also rise
- Capital stock predetermined
- Aggregate demand and/or labour supply must rise
- Inflation rises

$\Rightarrow$ self-confirming equilibrium and indeterminacy
Comment on question addressed

But Dupor result is not robust

- does not appear to hold in discrete time
- Li (2002, Princeton)
- in discrete time, capital stock has time to fall to increase return to capital
- normal Taylor principle applies

In this respect, Leith and von Thadden is using a sledgehammer to crack a nut
Final remarks

Paper has potential to answer some interesting questions

Need to address problem of negative labour supply
  - Change utility function, see Ascari and Rankin (ECB wp)

Most interesting problem is probably not one of indeterminacy