The theory of unconventional monetary policy

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Overview

Setup explicit model where OMO have distributional effects

Objective: discuss “risk composition” of CB balance sheet

Key questions:

–do OMO matter (for allocations)?

– what about non-standard OMO (e.g. trading Bonds for Equity)?

– can CB policy improve welfare (i.e. complete markets)?

Bottomline: lots of food for tough in simple model highly pedagogical: explicit fiscal-monetary nexus, distributional effects (Wallace’s irrelevance, non-Ricardian effects)

Main ingredients of the theory

2 period model (flex prices , MIU), all vars in dollars:

- heterogenous agents: 2 workers and 1 entrepreneur
- redistributive taxation $\mathcal{T}_1 = \mathcal{T}_2 = \mathcal{T}_3$, transfers $TR_1 = TR_2 = \frac{Q\ B}{2}$, $TR_3 = 0$
- segmented asset markets: only workers (i=1,2) buy B and get $TR_i > 0$
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Note: workers' nominal wealth $\mathcal{W}_i$

$$\mathcal{W}_i = w + \frac{TR_i}{Q} - \mathcal{T}_i = (use\ \ budg.const) = w + \frac{B}{2} - \frac{B}{3} - \frac{rM}{3}$$

– nominal bonds are net wealth (no ricardian equivalence)
– monetary policy M sets seignorage tax (r M) for given B

Mechanism behind multiplicity

Proposition 1. *Let $\{M, B\} \geq 0$ characterize monetary and fiscal policy, and let $w > 0$ satisfy the feasibility conditions,*

$$w \geq \frac{\mu_i B}{4(1+\lambda+\mu) - 6\mu_i}, \quad i \in \{1,2\} \quad \text{and} \quad w \geq \frac{2-\mu+\lambda(2-3\alpha)}{\mu+\alpha\lambda}\frac{B}{2}. \qquad (23)$$

The equilibrium level of nominal wealth, the interest rate, the real wage and are given by,

$$\mathcal{W} = \frac{6w+B}{2(1+\lambda+\mu)}, \quad r = \frac{\gamma}{M}\mathcal{W}, \quad \frac{w}{p} = \alpha\left(2 - \frac{\mu\mathcal{W}}{w}\right)^{\alpha-1}. \qquad (24)$$

The equilibrium values of $\{\{n_i, M_i\}_{i\in 1,2}, \{c_i\}_{i=1,2,3}, y, n\}$ are determined by equations (11) – (13) and (16) – (18) respectively. □

3 equations (24) in 4 vars: $\mathcal{W}$, w, p, r: (real) multiplicity if $\alpha < 1$, Homo-1

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–Note: if you fix B/w then no multiplicity, reminiscent of FTPL
– alternatively: fixing r (small open ec. or economy with capital) would do

Channels for redistribution and OMO "relevance"

- targeted fiscal transfers TR_i redistribute from EE to workers
- OMO (increase $\theta = M/B$) redistributes towards EE: $\mathcal{T}_3 = \frac{B - rM}{3} = B\frac{1 - r\theta}{3}$
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- Prop. 8 : monetary policy replicates CM with IM + segmented model.
  –technically: bonds and equity purchases by CB replicate CM payoffs

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- venerable tradition, some great papers in this line:

  - seminal ideas: Rotemberg (1983), Grossman Weiss (1983)
  how you get liquidity effects via incomplete participation (segmentation)

  - extensions: Lucas (1990), Christiano Eichenbaum (1992), Fuerst (1992), Alvarez + coauthors (2000, 2002, ..., 2014)
  liquidity and output effects via segmentation, mostly impact effect , some have propagation

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  – multiple equilibria not needed (alternatively: endowment shocks)
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- lots of instruments in this economy (fiscal and monetary);
  – Note: unconventional policy is about providing social insurance
  Samuelson 54, Scheinkman-Weiss 86, Levine 91, Lippi-et al 15

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- nice talking about risk management equity vs bonds vs money .... but
  – (1) the theory behind such assets is very ad hoc: M not "essential" !
  – (2) would agents replicate CB policy by themselves if we let them?