Policy Interaction, Learning and the Fiscal Theory of Prices

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Discussion by

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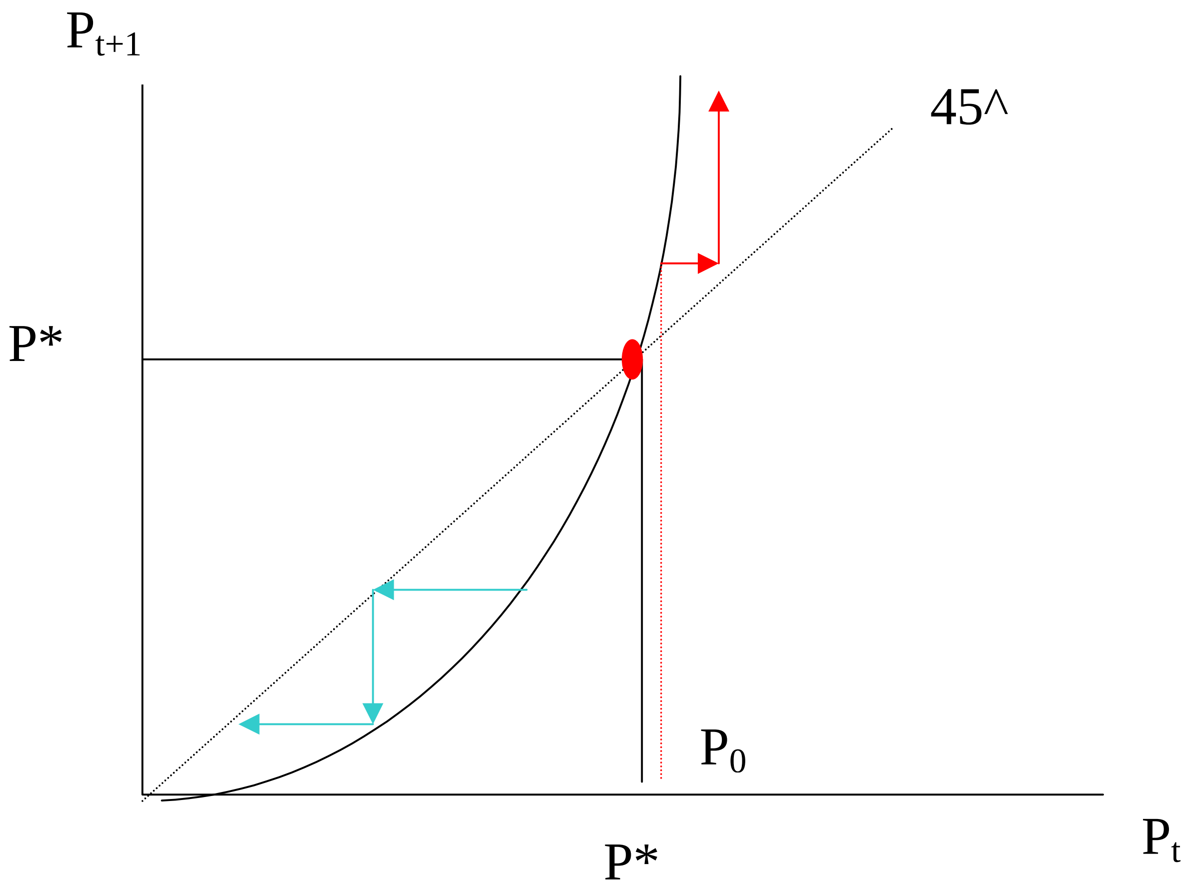
Objective:

Are ”fiscalist equilibria” with explosive price paths stable under learning?

Stability under learning used to evaluate plausibility of ”fiscalist equilibria”.

The Issue:

Monetary models generally display multiple equilibrium price paths- INDETERMINACY.



How do we implement particular equilibrium price paths by choice of fiscal and monetary policy?

Government Budget Constraint:

$\frac{B_0}{P_0}$ present value of future surpluses

Conventional view:

Equation must hold for all P and constrains government tax and expenditure policy. (Ricardian policy)

Impossible to chose gov policy to rule out particular equilibrium price paths.

Fiscalist view:

Equation is an equilibrium condition. P will move to restore equality. (Non-Ricardian Policy)

Can use gov policy to pick a particular price path.

Assume $M_t \quad M$.

Monetarist equilibrium satisfies $P_t \quad P$.

Under conventional view:

Implement monetarist equilibrium by appropriate choice of debt/taxes.

Rule out equilibrium price paths:

$$\frac{P_{t\ 1}}{P_t} \qquad \frac{M_{t\ 1}}{M_t},$$

as NON-FUNDAMENTAL (McCallum 2001).

Under fiscalist view:

B_0 given, determines P_0, P_t for $t \quad 0$.

Non-fundamental equilibrium price paths accepted.

$P_t \quad P$ all t possible ”by accident”.

E-stability:

Perceived Law of Motion (PLM):

$$P_t \qquad DP_{t \quad 1}$$

Actual Law of Motion (ALM):

$$P_t \qquad D \; P_{t \quad 1}$$

Induced Mapping:

$$D \;, \qquad\qquad T \; D,$$

REE:

$$\left(D, \quad\right) \qquad T\left(D, \quad\right)$$

Question: Convergence?

Answer: Analyze necessary conditions for local stability of differential eq.

General framework:

Law of motion for P_t :

$$A \quad m_t \;{}^{2}\left(E_t \quad {}_{t\,1}^{\,2\;\;1}\right) \qquad y \quad g \quad {}^{1} \; 1 \qquad E_t \quad {}_{t\,1}^{\,1}$$

Gov budget constraint:

$$b_t \quad m_t \qquad {}_t \qquad g \quad m_{t\;1} \quad {}_t^{\,1} \quad R_{t\;1} \quad {}_t^{\,1} b_{t\;1}$$

Fiscal policy rule:

$$_t \qquad {}_0 \qquad b_{t\;1} \qquad {}_t$$

Monetary policy rule:

$$R_t \qquad {}_0 \qquad {}_t \qquad {}_t$$

$$M_t \quad M \qquad {}_t$$

$_t$, $\quad _t$ iid shocks

Classification of policies:

AM: | | 1

AF: | ^{1} | 1

Classification of equilibria:

1. $_t$ ^{1} $_t$, monetarist eq (AM/PF)
2. $_t$ $_1 b_t$ $_2$ $_t$, fiscalist eq (PM/AF)
3. Non-fundamental stationary eq (PM/PF)
4. Non-stationary eq (AM/AF)

Findings:

No Uncertainty

Non-stationary eq not stable under learning.

With Uncertainty

Monetarist eq is unique stationary solution (AM/PF) stable under learning.

Fiscalist eq is unique stationary solution (PM/AF) stable under learning.

Non-stationary eq (AF/AM) monetarist **OR** fiscalist stable under learning.

Non-fundamental eq (PM/PF) not stable under learning.

Power of SUL as selection criterion:

Equilibrium stationary STABLE UNDER LEARNING

Equilibrium non–fundamental NOT STABLE UNDER LEARNING

Equilibrium non–stationary
STABILITY UNDER LEARNING POTENTIAL DISCRIMINATORY CRITERION

BUT

STABILITY UNDER LEARNING IS LOCAL CONCEPT!

Application of stability under learning to non-stationary eq is problematic.

Robustness of SUL as a selection

criterion:

Do findings depend critically on the details of the model?

e.g. Cash-when-I'm-done

(Calstrom and Fuerst 2001, Kocherlakota and Phelan 2000)

Law of motion for P_t :

$$Am_t \;^{2} \qquad y \quad g \quad ^{1} \; 1 \qquad E_t \quad {}_{t}{}^{1}_{1}$$

Same indeterminacy with no uncertainty, same findings on E-stability.

Are results the same with uncertainty?

Open questions:

- Is SUL useful for ruling out real indeterminacies?
- Is SUL useful for ruling out multiple equilibrium price paths that are characterized by same P_0 and bounded fluctuations such as in Matsuyama 1991?

Further issues:

- Asymptotic convergence:
- Slow convergence in simulations

Requires strong assumption on commitment to policy rule corresponding to the equilibrium being learned!