Unique Monetary Equilibria with Interest Rate Rules
Adão, Correia, and Teles

Discussion by Anton Nakov
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February 2009
Unique monetary equilibrium with an interest rate rule
Goal of this paper

- Unique monetary equilibrium with an interest rate rule
- Unlike most of the literature, not a unique local equilibrium, but simply a unique equilibrium.
Main contribution

- Find a rule that ensures a unique monetary equilibrium
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- Show how the rule works in a stripped-down cash-in-advance model with flexible prices
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- Show how it works in two extensions:
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  - prices set in advance (effective for one period)
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Overall assessment

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- Alternatives
Criticisms

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- the policy instrument appears in the forward-looking equation
- and the instrument appears contemporaneously

Would the results carry over to a more general setup? What if...
- there is more than one forward-looking equation (and variable)?
- the instrument does not appear in some forward-looking equation?
- the instrument appears with a lag?

Would the proposed rule work in standard extensions?
- forward-looking firm-investment dynamics (capital adjustment costs)
- forward-looking price-setting (Calvo or menu costs)
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\[ p_t = \theta_1 E_t p_{t+1} + \theta_{MC} t_i \]

Inflation is not a forward-looking variable in this case. So even if the rule pins down MC uniquely, this does not pin down \( \pi_t \).

In general, only by chance could the proposed rule exactly cancel out all expectation terms from a richer model with more forward-looking equations.
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  - Prices set in advance: today’s price depends on past expectations of today’s cost and demand

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Loisel’s (*JET, forthcoming*) proposal

\[ i_t = r + E_t \pi_{t+1} + \phi(\pi_t - \xi_t) \]

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Disadvantage: rule works only in linearized models

Advantage: generic framework for rules designed to work with more forward-looking equations

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For any \( \phi \to 1 \) (\( \phi < 1 \)) there is a continuum of explosive solutions:

\[ p_{t+1} = \frac{1}{1 - \phi} p_t - \frac{1}{1 - \phi} \zeta_t + \delta_{t+1}; \quad E_t (\delta_{t+1}) = 0 \]

\[ p_t = \left( \frac{1}{1 - \phi} \right)^t p_0 - \sum_{j=1}^{t} \left( \frac{1}{1 - \phi} \right)^{j-1} \zeta_{t-j} + \sum_{j=0}^{t-1} \left( \frac{1}{1 - \phi} \right)^{j} \delta_{t-j} \]

The Fed threatens an explosive path of inflation. For \( \phi = 1 \) the explosion is instantaneous.
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- Or suppose that the Fed is going to be worse-off not acting on it. But what could be worse for the Fed than explosive inflation or deflation?
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- Cochrane: fiscal theory of the price level
Two more issues

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- Again, is this credible? One might conjecture that long before the Fed has managed to implement such a confiscation of nominal wealth, people would switch to alternative money, e.g. gold or cigarettes.
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