

Discussion of the paper "Learning, monetary policy and asset prices" by Marco Airaudo, Salvatore Nisticò, and Luis-Felipe Zanna

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What is this paper about?

- Monetary policy and the stock market
- ① what should a central banker do when observing financial markets' oscillations? To react or not to react, this is the question ... (Bernanke and Gertler (several) vs. Cecchetti et al (several))

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- ④ optimal monetary policy in presence of equities: How does it look like?
- This paper deals with all these issues!

Features of the economy

- Demand side: Perpetual youth model (Blanchard 1985, Yaari 1965); equities part of financial wealth. Prob $\gamma > 0$ of dying in every period affects the degree of smoothing in the intertemporal path of aggregate consumption, i.e. dynamics of aggregate financial wealth relevant for today's consumption! (demand side is enhanced in this model)
- Supply side: Monopolistic competition in the intermediate goods mkt, perfect competition in the retail sector, price stickyness, exogenous cost-push shock.
- MP: Taylor rule whose generic form is

$$r_t - \tilde{\rho} = \phi_x E_t x_{t+k} + \phi_s E_t s_{t+k} + \phi_\pi E_t \pi_{t+k}, k = -1, 0, 1$$

Model dynamics generated by

$$x_t = \frac{1}{1+\psi} E_t x_{t+1} + \frac{\psi}{1+\psi} s_t - \frac{1}{1+\psi} (r_t - E_t \pi_{t+1} - r r_t^n)$$

$$s_t = \tilde{\beta} E_t s_{t+1} - \lambda E_t x_{t+1} - (r_t - E_t \pi_{t+1} - r r_t^n)$$

$$\pi_t = \tilde{\beta} E_t \pi_{t+1} + \kappa x_t + u_t,$$

plus the TRule

Reaction to stock mkt fluctuations by the Fed: Consequences for

- indeterminacy

in both a simple TRule world and under optimal monetary policy (discretion)

Reaction to stock mkt fluctuations by the Fed: Consequences for

- indeterminacy
- learnability: agents not rational, they form expectations using recursive least squares learning (E-stability for assessing "convergence")

in both a simple TRule world and under optimal monetary policy (discretion)

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- Also stock mkt targeting seems to be an inferior strategy
- Reacting to the output gap is of help
- Conclusions robust to different timing of the TRule (not presented in the paper)

My reaction

- Very nice paper!
- ① Role of equities in a new-Keynesian framework easily comparable with the benchmark NK model

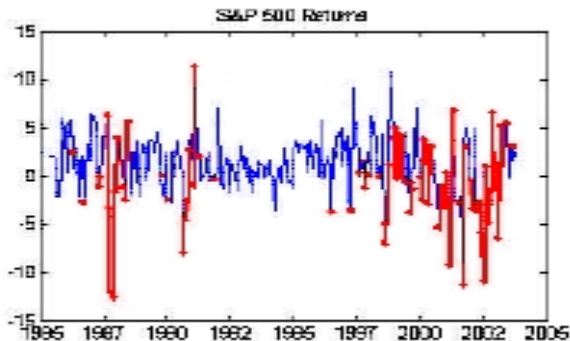
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- ③ Pretty clearly written paper! Perhaps I learnt something about learning ...
- Let me try to bother Marco before he goes to enjoy Mantegna's ... my points: The Fed's estimated reaction to the stock mkt, the TRule employed in the paper, and the role of interest rate smoothing.

The Fed's estimated reaction to the stock mkt



- D'Agostino, Sala, and Surico (2004): Two states, i.e. high and low volatility, the Fed cares just when the stock mkt gets too hot
- RE with 2-states, perhaps uniqueness where you find indeterminacy (Chung, Davig, and Leeper (2006))! What about learnability?

The TRule employed in the paper

$$r_t - \tilde{\rho} = \phi_x E_t x_{t+k} + \phi_s E_t s_{t+k} + \phi_\pi E_t \pi_{t+k}, k = 1$$

- FLook Taylor rule in a world in which everything moves contemporaneously: Why? No lags in the monetary policy transmission, here! Benchmark should be contemp looking TRule ... concerned with stability problems? Please clarify!
- CGG (2000): Benchmark FLook rule estimated with plausible, different horizons for inflation and the output gap:
 $r_t - \tilde{\rho} = \phi_x E_t x_{t+2} + \phi_\pi E_t \pi_{t+4} + \dots$ inflation and output featured by different time-horizons!
- Time horizon matter (see Zanetti (2006))

Interest rate smoothing

- In the model, inflation expectations not influenced by the Fed
- TRule: Why not to go for lagged interest rate? Perhaps it shrinks the indeterminacy territory (Woodford (2003))
- Optimal discretionary monetary policy: Interest rate smoothing? Once more, Woodford (2003)

Time for quibbles is over!

Questions from the floor, lunch-time, and then ...



Figure: Adoration of the Magi (Andrea Mantegna, undated)