Discussion of Jordi Galí and Luca Gambetti's "The Effects of Monetary Policy on Asset Price Bubbles: Some Evidence"

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Monetary Policy and Asset Bubbles: Consensus

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  - BIS view: Leaning against the wind

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  - True on average but particularly pronounced since early 1980s

Three Comments

1. Theory
2. Identification and specification
3. Systematic monetary policy vs innovations

Theory

- A general asset pricing framework:

$$\mathbb{E}_t\left(\mathcal{M}_{t,t+1}R^i_{t+1}\right) = 1 \tag{1}$$

  - $\mathcal{M}_{t,t+1} \equiv$ Stochastic discount factor (SDF)
  - $R^i_{t+1} \equiv$ Gross return on asset i at $t+1$

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  - Specializes utility to linear: $U(C_t) = a + bC_t \Rightarrow \mathcal{M}_{t,t+1} = \beta$

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  - Focuses on stocks ($i = s$) and risk-free bonds ($i = b$)

$$R^s_{t+1} \equiv \frac{D_{t+1} + Q_{t+1}}{Q_t} \qquad \text{and} \qquad R^b_{t+1} \equiv R_t$$

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- Would derive same implications using first order approximation of (1)

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  4. Use no arbitrage restriction
  $$\mathbb{E}_t \left[\mathcal{M}_{t,t+1} \left(\frac{D_{t+1} + Q_{t+1}}{Q_t} - R_t \right) \right]$$
  to show that bubble component must satisfy
  $$Q_t^B = \mathbb{E}_t \left(\mathcal{M}_{t,t+1} Q_{t+1}^B \right)$$

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$$1 = \mathbb{E}_t\left(\mathcal{M}_{t,t+1}\frac{Q^B_{t+1}}{Q^B_t}\right) = \mathbb{E}_t\left(\frac{Q^B_{t+1}}{Q^B_t}\right)R_t^{-1} + cov_t\left(\mathcal{M}_{t,t+1}, \frac{Q^B_{t+1}}{Q^B_t}\right)$$

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    - Presence of borrowing constraints complicates theory
- Could augment VAR with empirical model of stochastic discount factor
  - Predictions from theory less sharp but results more robust

Identification

- Reduced-form specification

$$x_t = A_{0t} + A_{1t}x_{t-1} + ... + A_{pt}x_{t-p} + u_t$$

where

$$x_t = \begin{bmatrix} \Delta y_t & \Delta d_t & \Delta p_t & i_t & \Delta q_t \end{bmatrix}'$$

  - $y_t \equiv$ log real GDP
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  2. In addition, **this paper:**
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  - Do other theories of bubble imply different restrictions?
  - Important? Ultimate objective: Test tenet of "leaning against the wind"

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$x_t = FFR_t$	-0.0012	-3.0454***	0.1462

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- Three comments:
  1. Some predictions of simple theory fail under generalized specification of stochastic discount factor
  2. Where does key identification assumption come from?
  3. Systematic part of monetary policy vs monetary innovations