

Rational and Near-Rational Bubbles Without Drift

By
Kevin J. Lansing

Kjersti-Gro Lindquist
Financial Markets Department
Norges Bank

Background

- Stock prices show "excess volatility" compared to the discounted stream of ex post realized dividends
- Bubble models allow stock prices to deviate from fundamental values
- In rational bubble models, agents know the fundamental asset price, but are willing to pay more
 - Price-dividend ratio exhibits a positive drift
 - Unrealistic
 - The bubble periodically crashes with a known probability
 - Ad hoc feature determined outside the model

This paper...

- Derive rational bubble equilibria
 - the unconditional mean of the bubble growth rate is zero
 - the volatility of the bubble innovations depends on fundamentals
 - Needs: an arbitrarily small positive bubble. (Risk aversion?)
- Derive a near-rational bubble equilibrium
 - the agent forecasts the asset price only – less costly to compute
 - Allow the asset price to dip below its fundamental value
 - A solution match the moments of U.S. data
- Gives an approximate analytical solution for the fundamental asset price

Comments

- Robustness of the results
 - The models are calibrated using US annual data for the growth of real per capita consumption over 1890 – 2003
 - The robustness of your conclusions and predictions of your models if you apply alternative parameter-sets

Policy relevance

- Important to describe asset price developments and understand drivers
- From a policy perspective: Should the central bank respond or not? We need to identify the bubble, i.e. the fundamental value
- To what extent are bubbles self-reinforcing? Asset prices determine collateral values, which are important for credit growth, which fuels asset prices...