

Persistence Properties of Market Intervention in Financial Markets

Roy Cerqueti¹ , Giulia Rotundo² & Francisco Redelico³

¹University of Macerata, Italy

²University of Tuscia, Italy

³Catholic University of Argentina, Argentina

A theoretical microeconomic model for an asset traded in a financial market is built and developed.

- The market is populated by heterogeneous agents.
- Each agent can behave as a chartist or a fundamentalist.
- The asset price forecast are driven by technical analysis of the market but also by the values of fundamentals.

- Agent interactions leads to an imitative behaviour which can affect the structure of the asset price dynamics
- Each agent carries out price forecasting using a short term approach, but collective behaviour can exhibit long-memory property

$$P_t = \frac{1}{1 - \eta L} \psi_t + \frac{a_2}{\vartheta} \sum_{i=1}^N \left\{ \frac{1}{1 + c} \cdot \frac{1 - \lambda_i}{(1 - \eta L)(1 - \lambda_i L)} \left(\gamma_{i,t} - c\nu \bar{P}_{i,t} \right) - \frac{c}{1 + c} \cdot \frac{1 - \lambda_i}{(1 - \eta L)(1 - \lambda_i L)} \left[\nu(\beta_i - 1) - \alpha_i \right] P_t - \frac{\lambda_i}{(1 - \eta L)(1 - \lambda_i L)} P_{t-1} \right\}.$$

- All parameters are discussed in the Poster
- The long-term memory property of the market prices is analysed
- A Theorem for sufficient conditions to stationarity for this model is proof.

Thank you!