The paper introduces communication in a standard overlapping generations model with heterogeneous beliefs. Communication causes the beliefs of the agents to be correlated with each other, which amplifies the volatility of the economy. The paper makes use of simulations to study the effect of communication on important economic variables like the risk-free rate of return and the equity premium.

The economic model is essentially the same as in Kurz and Beltratti (1997), except that the model involves communication. It is an overlapping generations model with H young agents and H old agents in each period. Each young agent is a replica of the old agent who preceded him, where a replica refers to the preferences and beliefs. In each period there are three markets, one for the consumption good with an aggregate supply equaling the total endowment and the total dividends, a stock market with a total supply of unity, and a market for a zero net supply, short term riskless debt instrument.

Each young agent forms an effective belief Q_t^h over the infinite sequences of (p_t, q_t, d_t) of the price dividend ratio, the price of the short term riskless debt instrument, and the growth rate of the dividends, as well as the announcements by the agents. In every period t each young agent makes an announcement concerning the price/dividend ratio in the next period, i.e. each agent announces truthfully whether the price/dividend ratio is expected to go up or down in the next period, with the announcements becoming public information thereafter.

It is assumed that the effective belief of young agent h in period t is Q_H^h with a frequency of α^h and Q_L^h with a frequency of $1-\alpha^h$, so for every h, t,

$$\mu^h\{Q_t^h = Q_H^h\} = \alpha^h. \tag{1}$$

The paper defines pairs of transition probability matrices that correspond to the pair of effective beliefs (Q_H^h, Q_L^h) as follows. Young agent h in period t adopts a transition matrix $\bar{F}^h$ by the following rule:

$$\bar{F}_t^h = \begin{cases} \bar{F}_H^h & \text{if } Q_t^h = Q_H^h, \\ \bar{F}_L^h & \text{if } Q_t^h = Q_L^h. \end{cases} \tag{2}$$

The transition matrices $\bar{F}_H^h$ and $\bar{F}_L^h$ of each agent h must satisfy the following condition for the sequence of effective beliefs $\{Q_t^h\}_{t=1}^\infty$ to constitute a rational belief:

$$\alpha^h \cdot \bar{F}_H^h + (1-\alpha^h) \cdot \bar{F}_L^h = \Gamma, \quad \forall h, \tag{3}$$

where Γ is the stationary transition probability matrix characterizing the stationary measure induced by the true probability measure.

A Markov Rational Belief Equilibrium is a stable Markov Competitive Equilibrium in which the sequences of effective beliefs $\{Q_t^h\}_{t=1}^\infty$ $(h = 1, 2, \ldots, H)$ satisfy (1), (2), and the rationality condition (3).

The simulation analysis reports on the values of a number of important economic variables which are attained at a Markov Rational Belief Equilibrium for a suitably calibrated economy.

Kurz, M., and A. Beltratti (1997), "The Equity Premium is no Puzzle," in *M. Kurz (ed.), Endogenous Economic Fluctuations, Chapter 11,* Springer, Berlin.