Stochastic Herding in Financial Markets: Evidence from Institutional Investor Equity Portfolios

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> > January 2012

Abstract

We estimate a structural model of herding behavior in which feedback arises due to mutual concerns of traders over the unobservable "true" level of market liquidity. In a herding regime, random shocks are exacerbated by endogenous feedback, producing a dampened power-law in the fluctuation of largest sales. The key to the fluctuation is that each trader responds not only to private information, but also to the aggregate behavior of others. Applying the model to the data on portfolios of institutional investors (fund managers), we find that the empirical distribution is consistent with model predictions. A stock's realized illiquidity propagates herding and maps onto the dampening parameter of the probability distribution of the number of fund managers choosing to drop the stock from their portfolio each quarter. The distribution function itself has desirable properties for evaluating "tail risk."