Rumors: A Correction and Clarification

In my paper "Rumors" (van Bommel, 2003), I show how it can be optimal, for a resource constraint informed investor, to spread informative but imprecise rumors. The rumor strategy leads to excessive volatility and the potential overshooting of the market price may give the rumormonger the opportunity to profit twice from her informational advantage.

In the model, a protagonist, L, privately knows the liquidation value $\tilde{v} \in [-2, 2]$ of a security that is traded in a series of N Kyle (1985) auctions by uninformed traders who demand $\tilde{u}_i \sim N(0, \sigma_u)$ in every auction i. L's trading capacity is limited to $x_L \ll \sigma_u$, which essentially means that L is too small to steer the price to its liquidation value using the Kyle (1985) rationing program.

In the suggested rumor strategy L buys (sells) x_L whenever she sees $\tilde{v} > 0$ ($\tilde{v} < 0$), and that she immediately afterwards sends a "buy" ("sell") rumor to her followers who, in aggregate *can* move the price. Because this rumor is imprecise but correct, the followers will eventually steer the price to either 1, or -1. In those cases where L privately knows $0 < \tilde{v} < 1$ or $-1 < \tilde{v} < 0$, there is thus *overshooting*. It is this overshooting that L can exploit, by flipping her position.

The analysis is kept simple thanks to the assumption that L always trades her entire endowment in the first Kyle-auction. In the paper this is justified by the existence of a small transaction costs $c \ll \sigma_u$. In the appendix it is shown that for a small trading capacity x_L, a much smaller transaction cost c can justify the assumption of a non-rationing L.

Bilge Yilmaz has brought to my attention that under the current assumptions, the equilibrium analysis in the paper is not valid. Specifically, it is not clear why L trades in the *first* auction. Given the assumed pricing strategy, L has an incentive to delay trading or randomize her trade over the available auctions, so as to further reduce the price impact of her trade.

It is easy to conjecture that the correct Nash Equilibrium of the no-rumors game of section I, prescribes L to randomize her trade over the N auctions. However, her profit will still be given by $E[\Pi_L]_{silent} \approx x_L$ (proposition I in the paper). The full analysis of the rumors-game (section II of the paper) under the current assumptions would be very complicated. While L has an incentive to begin trading and rumor-mongering early, so as to give the rumor time to disseminate, the posibility of choosing an auction to trade and start the rumor greatly complicates the analysis. Still, it can be conjectured that L's option to randomize over the available N auctions will *increase* her profit (albeit very weakly) vis-à-vis the current analysis. This implies that, even under the current assumptions, the intuition of the paper holds.

Instead of attempting to provide the correct equilibrium, I suggest slightly changing the assumption regarding the transaction costs. Instead of assuming "a small round trip transaction cost $c \ll \sigma_u$," I suggest assuming "a small round trip transaction cost $c \ll \sigma_u$ *at all except the first auction*." The first equation in proposition 1(i) trivially changes to $\tilde{p}_1 = P_1(H_1) = \varphi(y_1 - x_L) - \varphi(y_1 + x_L) \approx 0$, and the remainder of the paper stays the same.

There are several ways to interpret the transaction costs at all but the first auction. It can represent a time-constraint, that forces L to trade in the first auction. The N auctions may represent a day, and insider L can only submit orders in the evening or early morning, outside trading hours. A more attractive interpretation (suggested by Associate Editor Anat Admati) is that there is a small probability of information disclosure after the first auction, which is large enough to entice L to trade in the first period only.

Every model involves simplifying assumptions. Modifying the assumptions made in my paper way seems quite plausible, and it significantly simplifies the analysis. Most importantly, it allows the main insight of the paper to come through in the simplest possible context. While I regret that the error in the original paper may have caused confusion, I believe that the main idea of the paper, namely that an informed trader can potentially benefit from spreading rumors through as mechanism such as suggested in the paper, is intuitively compelling. Moreover, I believe that this type of phenomenon would arise in other models, and not just with the set of assumptions my model (as amended) makes.

References

Kyle, Albert S. (1985), Continuous auctions and insider trading, Econometrica, Vol. 53, pp.1315-1335.

van Bommel, Jos (2003), Rumors, Journal of Finance, Vol.58, pp.1499-1520.