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Moritz Voss* (voss@math.ucla.edu), University of California Los Angeles, Department of Mathematics, 520 Portola Plaza, Los Angeles, CA 90095. *Trading with the Crowd*.

We formulate and solve a multi-player stochastic differential game between financial agents seeking to cost-efficiently liquidate their position in a risky asset in the presence of jointly aggregated transient price impact on the risky asset's execution price along with taking into account a common general price predicting signal. In contrast to an interaction of the agents through purely permanent price impact as it is typically considered in the existing literature on multi-player price impact games, accrued transient price impact does not persist but decays over time. The unique Nash-equilibrium strategies of our game reveal how each agent's liquidation policy compensates the predictive price signal for the accumulated transient price distortion induced by all other agents' price impact and thus unfolds a direct and natural link in equilibrium between the agents' jointly followed trading signal and their overall trading activity. We also formulate and solve the resulting mean field game in the limit of infinitely many agents and show how the finite-player Nash equilibrium strategies converge to the unique mean field game solution.

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