Trading and Liquidity with Limited Cognition*

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Abstract

We study the reaction of traders and markets to an aggregate liquidity shock under cognition limits. While institutions recover from the shock at random times, traders observe the status of their institution only when their own information process jumps. This delay reflects the time it takes to collect and process information about positions, counterparties and risk exposure. Traders who find their institution has a low valuation place market sell orders, and then progressively buy back at relatively low prices, while simultaneously placing limit orders to sell later when the price will have recovered. We compare the case where algorithms enable traders to implement this strategy to that where traders can only place orders when their information process jumps. Our theoretical results are in line with empirical findings on order placements and algorithmic trading.

Keywords: Limit-orders, asset pricing and liquidity, bid-ask spread, algorithmic trading, limited cognition, sticky plans.

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