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Resiliency of the Limit Order Book[☆]

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Abstract

This study contributes to our understanding of the liquidity replenishment process in limit order book markets. A measure of resiliency is proposed and quantified for different liquidity shocks through the impulse response functions generated from a high frequency vector autoregression. The model reveals a rich set of liquidity dynamics. Liquidity shocks were found to have immediate detrimental effects on other dimensions of liquidity but the replenishment process generally occurs quickly, indicating limit order books are resilient. Cross-sectionally, resiliency is found to be consistently high across all large stocks, consistent with competition for liquidity provision coming from computerised algorithms. For other stocks, greater variation in resiliency is observed, indicating more selective participation by these liquidity providers.

JEL classification: G12; G14; C32

Keywords: Resiliency, Liquidity, Limit order book, Liquidity shocks.

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