

Mark-to-Market and Leveraged Trading in a Speculative Market:

A Simulation with Zero Intelligent Agents

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In liquid markets the frequency or timing of settlement (marking-to-market) may not be expected to impact prices. However during illiquid periods with leveraged trading, settlement can have a significant impact on forced liquidations and price volatility. This paper presents an agent-based model of real time settlement in a leveraged market with zero-intelligent traders in an open-outcry double auction, stylized after a futures market. Initial simulations produce the emergent market phenomenon of volatility clustering in returns and serial correlation in prices, which is related to the degree of leverage among traders. These results suggest that mark-to-market real time settlement promotes overshooting in prices, as price changes lead to a cascade of deleveraging among market participants in an illiquid market.