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No-arbitrage conditions for limit-price orders.

We consider a stock exchange model, operating with limit orders. When modelling the demand and supply rates, which are assumed to be driven by Brownian Sheets, we consider the limit price to be a variable (unlike the traditional approach). We base our model on the fundamental economic assumption that any moment the supply is equal to the demand, and then compute the clearing price at any given time. We derive the no-arbitrage conditions on the drift and the volatility of supply and demand rates, so that the clearing price is a risk-neutral martingale. (Received August 15, 2010)