Flow Trading

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Abstract

We propose a new market design for trading financial assets like stocks. Our design combines three elements: (1) Traders submit persistent piecewise linear flow demand curves to trade in shares per second (Kyle and Lee, 2017). (2) Frequent batch auctions are held at regular intervals, such as once per second (Budish, Cramton, and Shim, 2015). (3) Traders may submit orders to trade portfolios of assets as if they were one asset. Market clearing quantities and prices are the solution to a quadratic program with linear constraints, constructed by attributing preferences to orders and maximizing imputed gains from trade. Market clearing prices exist and define traded quantities uniquely. Calculating prices is computationally feasible. The market design corrects flaws in existing markets. It reduces bid-ask spreads to zero and allows all executable orders to trade at the same prices at the same time. It promotes economic efficiency by eliminating the arms race for speed and by reducing messaging costs. It promotes trust and confidence by improving transparency and simplifying participation.

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