



AQR Insight Award 2014

Judges Committee Statement

May 20, 2014

This year's winner of the [AQR Insight Award for 2014](#) is "The High-Frequency Trading Arms Race: Frequent Batch Auctions as a Market Design Response," by Eric Budish, Peter Cramton and John Shim. By selecting this excellent paper, we want to highlight the need for rigorous scientific studies of market structure design and the costs and benefits of different design choices. This paper represents a first and significant step in better understanding market design choices and their consequences.

We want to emphasize that the selection of this paper is not an endorsement of the paper's final conclusions, particularly with regard to policy. As the authors would agree, their paper represents an early attempt at a rigorous model. No model will ever describe the world in its entirety, and future work may or may not reverse this paper's policy conclusions. But future researchers will greatly benefit from this important foundational work.

The paper shows empirically how arbitrage between exchanges keeps the relative prices in check, but also imposes a cost on liquidity providers when their limit orders become stale and are "picked off" before they are cancelled. The paper further presents an economic model of this phenomenon in a continuous auction setting and an alternative market design based on discrete auctions. The paper highlights some interesting aspects of continuous and discrete market designs in a highly stylized setting, but the model leaves out several important aspects of the real world such as information asymmetry, inventory risk, minimum tick sizes and competition between exchanges. These additional effects left out of the model also influence which market design is ultimately the best for investors. For instance, some of the arbitrage issues studied in the paper may rely on high minimum tick sizes, which in turn could arise from limited competition between exchanges for the securities that are studied. Further, some of the benefits of discrete auctions may be undercut in the context of multiple exchanges, while having a single exchange could create monopoly problems.



While the paper models one important and interesting aspect of markets — continuous trading — the other aspects related to tick size, exchange competition, and information would need to be further studied in order to arrive at the best market design. It is vital that we better understand alternative market structures and this year’s winner is the best first step we have seen toward formalizing our understanding of these issues.

By selecting this paper, we want to highlight the need for scientific studies, both theoretical and empirical, of market structure design by both academics and practitioners. The strongest contribution of the paper is providing rigorous economic framework for beginning to understand some important issues in market design and their consequences. More theory and data that can bring light to bear on other important aspects of market design that will help enable policy makers and exchanges to improve market structure.

We also wish to acknowledge the four other excellent finalist papers, which were chosen among the hundreds of submitted papers from all over the world. These papers study how momentum returns can be timed, how option prices predict the future returns of both options and their underlying stocks, how individual investors and fund managers are biased to trade stocks that have had the best or worst performance among those in their portfolio, and how the risk of stocks depend on the firms leverage and other effects. Together these five finalist papers from the AQR Insight Award demonstrate how academic research can lead to innovations with practical applications for investors and asset managers. We hope that an engaging debate over this paper will spur further insightful research and help investors achieve better portfolios.

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