Michael Brolley

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Citizenship Canadian

Research Interests Financial Economics, Theoretical and Empirical Market Microstructure, Asymmetric Information, and Market Design

Teaching Interests Financial Economics, Corporate Finance, Market Microstructure, Microeconomic Theory, Quantitative Methods

Education

2009-present Ph.D., Economics, University of Toronto (expected June 2015)
Dissertation: Limit Order Markets
Committee: Andreas Park (supervisor), Katya Malinova, and Jordi Mondria

2008-2009 M.A., Economics, Queen's University (supervisor: Hongfei Sun)

2004-2008 B.A. (Honours), Applied Economics (w/ Distinction), Queen's University

Publications & Research Papers

"Should Dark Pools Improve Upon Visible Quotes? The Impact of Trade-at Rules"
(job market paper) – *Winner of the "Doctoral Tutorial Best Paper Prize", EFA 2014.*

- Presented at Wilfrid Laurier University, FMA 2014, Copenhagen Business School, EFA 2014 (Doctoral Tutorial), CEA 2013, 2013 CIREQ PhD Students' Conference, U Toronto.

"Informed Trading and Maker-Taker Fees in a Low-Latency Limit Order Market"
(with Katya Malinova)

- Presented at WFA 2013 (co-author), NFA 2013 (co-author), 2013 RSM Liquidity Conference (co-author), 2013 TADC at LBS, 8th Central Bank Workshop on Market Microstructure (co-author), CEA 2012, U Toronto.

"The Quadratic Oil Extraction Oligopoly" (with John M. Hartwick)
Resource and Energy Economics, 2008, 30(4), pages 568-577.

Work in Progress

"Liquidity for Large Orders: Does High-Frequency Trading Benefit Institutional Investors?"
(in progress)

Awards, Grants and Honours (PhD Only)

NASDAQ OMX & CQA EFA Doctoral Tutorial Best Paper Prizes, 2014
University of Toronto Doctoral Completion Award, 2013-14
Ontario Graduate Scholarship, 2009 & 2013
Graduate Expansion Fund Project Grant (at University of Toronto – Mississauga), 2013
Social Sciences and Humanities Research Council Doctoral Fellowship, 2010-2012
Various Travel Grants (SSHRC, UToronto, CEA, CIREQ)
Young Economist, 4th Nobel Laureates Meeting at Lindau, 2011
University of Toronto Graduate Fellowship, 2009-2013
Arthur Child Scholarship in Economics, 2009
C.B Macpherson Graduate Admission Award, 2009

Professional Experience

2008-present: Teaching Assistant, University of Toronto and Queen's University
(#) – indicates number of semesters

Undergraduate & Graduate Investments (12), Corporate Finance (7);
- Tutorials, Grading

Undergraduate & Graduate Market Microstructure (2), Financial Market Trading;
- Essay and Data Project advising, Grading

Canadian Economic History, Microeconomic Theory (2), Intro to Economics
- Tutorials, Effective Writing Seminars, Grading

Money and Banking (2), Market Design
- Grading

2012: Department of Economics Award for Excellence in Teaching by a TA
(for Investments, Corporate Finance, and Market Microstructure)

2006-2013: Research Assistant, University of Toronto and Queen's University

Andreas Park and Katya Malinova (Toronto), Market Microstructure, 2011-13
Adonis Yatchew (Toronto), Energy Economics, 2009
Alan Green (Queen's), Economic History, 2008-09
John Hartwick (Queen's), Resource Economics and Urban Economics, 2006-08

2011-2013: Teaching Assistant Training Facilitator, University of Toronto
2011-2014: Graduate Economics Union Representative & Webmaster, University of Toronto
2011-2012: Graduate Advisory Committee, University of Toronto

Conference Discussions and Other Presentations

2014: EFA Meeting (Doctoral Tutorial), Queen's U (Guest Lecture on high-frequency trading)
2013: CEA Meeting, Trans-Atlantic Doctoral Conference at LBS
2012: NFA Meeting, Central Bank Workshop on Market Microstructure

References

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Dissertation Abstract
Limit Order Markets

Should Dark Pools Improve Upon Visible Quotes? The Impact of Trade-at Rules (job market paper)

Dark pools—trading systems that do not publicly display orders—fill orders at a price better than the prevailing displayed quote, but do not guarantee execution. This improvement is the "trade-at rule". I develop a model to examine the impact of dark pool trade-at rules on equity markets. In my model, investors, who trade on private information or liquidity needs, can elect to trade on a visible market, or a dark market where limit orders are hidden. A competitive liquidity provider participates in both markets. The dark market accepts market orders from investors, and if a limit order is available, fills the order at a price better than the displayed quote by a percentage of the bid-ask spread (the trade-at rule). The impact of dark trading on measures of market quality and social welfare depends on the trade-at rule, relative to the price impact of visible limit orders. A dark market with a large (but not too large) trade-at rule improves market quality and welfare; a small trade-at rule, however, impacts market quality and social welfare negatively. Price efficiency declines whenever investors use the dark market. For a trade-at rule at midpoint or larger, the liquidity provider does not post limit orders to the dark market.

Informed Trading and Maker-Taker Fees in a Low-Latency Limit Order Market (with Katya Malinova)

We model a financial market where privately informed investors trade in a limit order book monitored by low-latency liquidity providers. Price competition between informed limit order submitters and low-latency market makers allows us to capture tradeoffs between informed limit and market orders in a methodologically simple way. We apply our model to study maker-taker fees — a prevalent, but controversial exchange fee system that pays a maker rebate for liquidity provision and levies a taker fee for liquidity removal. When maker-taker fees are passed through to all traders, only the total exchange fee per transaction has an economic impact, consistent with previous literature. However, when investors pay only the average exchange fee through a flat fee per transaction — as is common practice in the industry — maker-taker fees have an impact beyond that of a change in the total fee. An increase in the maker rebate lowers trading costs, increases trading volume, improves welfare, but decreases market participation by investors.

Liquidity for Large Orders: Does High-Frequency Trading Benefit Institutional Investors? (in progress)

Recently, the rise of High Frequency Traders (HFTs) in markets has led to dramatic reductions in bid-ask spreads, improving liquidity for small orders. However, intraday volatility has also increased, raising questions about the costs of moving large orders---a major concern for institutional investors. I develop a model to analyze the impact of HFTs on the execution costs of large orders. In a financial market where HFTs provide liquidity for a single security, investors trade large orders for informational or liquidity reasons. Investors trade by placing a single large order, or two small orders over two periods. Before the second order is placed, HFTs become informed with some probability, and update their limit orders. I analyze the impact of this probability on investors' order choices, market quality and investor welfare.