Special Topics in Finance

재무특별세미나

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Kee H. Chung

Louis M. Jacobs Professor

SUNY at Buffalo

SKKU

(e-mail) keechung@buffalo.edu

Grading Policy: In-class presentation and discussion participation (25%), Term paper (25%), Two Exams (50%)

Term paper: Options: (1) replication of a published paper or (2) creative paper

Office hours: 1:00-2:00 Wednesday and by appointment

Class hours: 2:00-4:50 Monday, Wednesday, Friday at Room 506

## Useful Websites

Social Science Research Network: <http://www.ssrn.com/>

Google Scholar: <http://www.scholar.google.com/>

NYSE website: <http://www.nyse.com>

Nasdaq website: <http://www.nasdaq.com/>

## Data

Trade and Quote (TAQ) database is a collection of intraday trades and quotes for all securities listed on the New York Stock Exchange, American Stock Exchange, Nasdaq National Market System and SmallCap issues. Data is designed for sophisticated users participating in a research project. Because of the low pricing scheme, only limited support is available for the product. The TAQ User's Guide is also available in PDF format.

Data: <http://wrds.wharton.upenn.edu/>

User’s Manual: <http://wrds-web.wharton.upenn.edu/wrds/support/Data/_001Manuals%20and%20Overviews/_125TAQ/index.cfm>

[TAQ Help](http://www.acsu.buffalo.edu/~keechung/MGF743/Lecture%20Notes/TAQ%20Help.pdf)

Nastraq provides NASDAQ dealer quote data

<http://wrds-web.wharton.upenn.edu/wrds/ds/nastraq/index.cfm>

Monthly Share Volume Reports ([http://www.NASDAQtrader.com/static/tdhome.stm](http://www.nasdaqtrader.com/static/tdhome.stm))

The Monthly Share Volume Reports reflect reported volume and ranking for all market participants trading in each NASDAQ® stock (including volume during extended hours trading).

### Electronic papers

Review of Financial Studies: <http://www.rfs.org/> (all published and forthcoming papers)

Journal of Financial Economics:

<http://www.sciencedirect.com/science?_ob=PublicationURL&_cdi=5938&_pubType=J&_auth=y&_acct=C000050221&_version=1&_urlVersion=0&_userid=10&md5=b89c7b235eb1012d7a69f0f6b308302a>

(1995 to present)

AFA & Journal of Finance: <http://www.afajof.org/> (all published and forthcoming papers)

Journal of Financial and Quantitative Analysis: <http://depts.washington.edu/jfqa/> (See below)

Journal of Financial Markets: <http://www.sciencedirect.com/science?_ob=PublicationURL&_cdi=6071&_pubType=J&_auth=y&_acct=C000050221&_version=1&_urlVersion=0&_userid=10&md5=7956b30cf0aca57164f36bcf4375a7e5>

(April 1998 to present)

Journal of Financial Intermediation:

<http://www.sciencedirect.com/science?_ob=JournalURL&_cdi=6876&_auth=y&_acct=C000037419&_version=1&_urlVersion=0&_userid=681891&md5=848a860278635e606af241eaea695a29>

(1993 – present)

**Useful Books and Readings**

Larry Harris. **Trading & Exchanges: Market Microstructure for Practitioners**. Oxford University Press, 2003.

<https://www.amazon.com/gp/offer-listing/0195144708/ref=dp_olp_new?ie=UTF8&condition=new>

Free Draft Copy

<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0ahUKEwj727j9gYbRAhUo64MKHZ5-DdkQFgghMAE&url=http%3A%2F%2Fwww-bcf.usc.edu%2F~lharris%2FTrading%2FBook%2FBook-extract.pdf&usg=AFQjCNHHP1I-HX8lfLipp9cMo0pIcyReAg&sig2=dWmP1EnsijQMsVfkR9-ndw&cad=rja>

Maureen O’Hara. **Market Microstructure Theory**. Blackwell Publishers Inc. 1995.

Thierry Foucault, Marco Pagano, and Ailsa Roell. **Market Liquidity**. Oxford University Press. 2013.

Joel Habrouck. **Empirical Market Microstructure.** Oxford University Press. 2007.

Madhavan, A., 2000. [Market microstructure: a survey](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/Market%20microstructure%20A%20surveyq.pdf). Journal of Financial Markets 3, 205-258.

Stoll, H., 2003. [Market microstructure](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/Hans%20Stoll,%202003,%20Market%20microstructure.pdf). Working paper. Vanderbilt University.

**Introduction -** [**http://www.acsu.buffalo.edu/~keechung/MGF743/PowerPoint/**](http://www.acsu.buffalo.edu/~keechung/MGF743/PowerPoint/)

**Part 1: Trading Protocols and Market Structures**

T&E Chapter 4. Orders and Order Properties

T&E Chapter 5. Market Structures

T&E Chapter 6. Order-driven Markets

T&E Chapter 13. Dealers

**Part 2: Basic Models**

T&E Chapter 10. Informed Traders and Market Efficiency

T&E Chapter 11. Order Anticipators <http://www.cfapubs.org/doi/pdf/10.2469/faj.v69.n2.6> (cut and paste

this link to download the paper).

T&E Chapter 14. Bid/ask Spreads

T&E Chapter 20. Volatility

T&E Chapter 21. Liquidity and Transaction Cost Measurement

[Adverse selection model I](http://www.acsu.buffalo.edu/~keechung/MGF743/Lecture%20Notes/LN-%20Adverse%20selection%20model%20I.doc)

[Adverse selection model II](http://www.acsu.buffalo.edu/~keechung/MGF743/Lecture%20Notes/LN%20-%20Adverse%20selection%20model%20II.doc)

[Excel Application](http://www.acsu.buffalo.edu/~keechung/MGF743/Lecture%20Notes/Copy%20of%20SimpleSequentialTradeModel-%20Hasbrouck.xls)

[Easley, D., N. Kiefer, and M. O’Hara, 1997. One day in the life of a very common stock, Review of Financial Studies 10, 805-835.](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/One%20day%20in%20the%20life%20of%20a%20very%20common%20stock.pdf) [Tree diagram and others](http://www.acsu.buffalo.edu/~keechung/MGF743/Lecture%20Notes/EKO%20(1997)%20Tree%20diagram%20and%20others.pdf)

[Strategic trade models](http://www.acsu.buffalo.edu/~keechung/MGF743/Lecture%20Notes/LN%20-%20Strategic%20trade%20models%20of%20asymmetric%20information.doc) I: Basic Model [Kyle model figure](http://www.acsu.buffalo.edu/~keechung/MGF743/Lecture%20Notes/Kyle%20Figure.pdf)

Strategic trade models II: An Extension – Kee H. Chung, Oliver Kim, Steve C. Lim, and Sean Yang. 2014 “[Strategic informed trading and the market reaction to earnings announcements](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/PEAD%20with%20Empirical%20results.pdf).” [Chung et al PEAD paper figure](http://www.acsu.buffalo.edu/~keechung/MGF743/Lecture%20Notes/Chung%20et%20al%20PEAD%20paper%20figure.pdf)

**Part 3: Selected Topics**

**A. Determinants of spreads – early literature**

1 Demsetz, H., 1968. [The cost of transacting](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/The%20cost%20of%20transacting.pdf). Quarterly Journal of Economics 82, 33-53.

2 Tinic, S., West, R., 1972. [Competition and the pricing of dealer service in the over-the-counter stock market](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/Competition%20and%20the%20Pricing%20of%20Dealer%20Service.pdf). Journal of Financial and Quantitative Analysis 7, 1707-1727.

3 Benston, G., Hagerman, R., 1974. Determinants of bid-asked spreads in the over-the-counter market. Journal of Financial Economics 1, 353-364.

4 Stoll, H., 1978. [The pricing of security dealer services: an empirical study of Nasdaq stocks](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/The%20%20Pricing%20of%20Securiry%20Dealer%20Services.pdf). Journal of Finance 33, 1153-1172.

**B. Components of spreads**

[Spread component model](http://www.acsu.buffalo.edu/~keechung/MGF743/Lecture%20Notes/LN%20-%20Components%20of%20the%20spread.pdf)

1 Roll, R., 1984. [A simple implicit measure of the effective bid-ask spread in an efficient market](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/Roll%201984.pdf). Journal of Finance 39, 1127-1139.

2 Stoll, H., 1989. [Inferring the components of the bid-ask spread: theory and empirical tests.](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/Stoll%201989.pdf)  Journal of Finance 44, 115-134.

3 Glosten, L., Harris, L., 1988. [Estimating the components of the bid-ask spread](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/B3%20Glosten%20and%20Harris,%201988%20JFE.pdf). Journal of Financial Economics 21, 123-142.

4 George, T., Kaul, G., Nimalendran, M., 1991. [Estimation of the bid-ask spread and its components: a new approach](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/Estimation%20of%20the%20bid-ask%20spread%20and%20its%20component.pdf). Review of Financial Studies 4, 623-656.

5 Krinsky, I., Lee, J., 1996. [Earnings announcements and the components of the bid-ask spreads](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/Earnings%20announcements%20and%20the%20components%20of%20the%20bid-ask%20spreads.pdf). Journal of Finance 51, 1523-1535.

6 Huang, R., Stoll, H., 1997. [The components of the bid-ask spread: a general approach](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/B6%20The%20components%20of%20the%20bid-ask%20spread.pdf). Review of Financial Studies 10, 995-1034.

7 Stoll, H., 2000. [Friction](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/Friction.pdf). Journal of Finance 55, 1479-1514.

8 Holden, Craig W. and Jacobsen, Stacey E. and Subrahmanyam, Avanidhar, The Empirical Analysis of Liquidity (October 2, 2014). Kelley School of Business Research Paper No. 2014-09. Available at SSRN: http://ssrn.com/abstract=2402215 or <http://dx.doi.org/10.2139/ssrn.2402215>

Forthcoming in Foundations and Trends in Finance

9 Kee H. Chung and Hao Zhang. "[A Simple Approximation of Intraday Spreads with Daily Data](http://www.sciencedirect.com/science/article/pii/S138641811300013X)." Journal of Financial Markets 17 (January 2014), 94-120.

10 Corwin, Shane and Schultz, Paul. 2012. [A Simple Way to Estimate Bid-Ask Spreads from Daily High and Low Prices](http://onlinelibrary.wiley.com/doi/10.1111/j.1540-6261.2012.01729.x/abstract), The Journal of Finance 67, 719-759.

## C. Trade classification

1 Lee, C., Ready, M., 1991. [Inferring trade direction from intraday data](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/Inferring%20trade%20direction%20from%20intraday%20data.pdf). Journal of Finance 46, 733-746.

2 Odders-White, E., 2000. [On the occurrence and consequences of inaccurate trade classification](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/C2%20On%20the%20occurence%20and%20consequences%20of%20inaccurate%20trade%20cla.pdf). Journal of Financial Markets 3, 259-286.

3 Bessembinder, H., 2003. [Issues in assessing trade execution costs](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/Issues%20in%20assessing.pdf). Journal of Financial Markets 6, 233-257.

## D. Nasdaq controversy, stock price clustering, and SEC market reforms

1 Christie, W., Harris, J., Schultz, P., 1994. [Why did NASDAQ market makers stop avoiding odd-eighth quotes?](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/Collusion%20B%201994.pdf) Journal of Finance 49, 1841-1860.

2 Christie, W., Schultz, P., 1994. [Why do NASDAQ market makers avoid odd-eighth quotes?](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/Collusion%20A%201994.pdf) Journal of Finance 49, 1813-1840.

3 Harris, L., 1991. [Stock price clustering and discreteness.](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/Clustering%20-%20Harris.pdf) Review of Financial Studies 4, 389-416.

6 Barclay, M., 1997. [Bid-ask spreads and the avoidance of odd-eighth quotes on Nasdaq: an examination of exchange listings](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/D6%20Bid-ask%20spreads%20and%20the%20avoidance%20of%20odd-eighth%20quotes%20on.pdf). Journal of Financial Economics 45, 35-60.

7 Demsetz, H., 1997. [Limit orders and the alleged Nasdaq](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/Demsetz.pdf). Journal of Financial Economics 45, 91-95.

8 Barclay, M., Christie, W., Harris, J., Kandel, E., Schultz, P., 1999. [The effects of market reform on the trading costs and depths of Nasdaq stocks](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/Barclay%20et%20al%201999.pdf). Journal of Finance 54, 1-34.

10 Chung, K., Van Ness, B., Van Ness, R., 2001. [Can the treatment of limit orders reconcile the differences in trading costs between NYSE and Nasdaq issues](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/D10%20out.pdf). Journal of Financial and Quantitative Analysis 36, 267-286. <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=243754>

11 Chung, K., Van Ness, B., Van Ness, R., 2002. Spreads, depths, and quote clustering on the NYSE and Nasdaq: evidence after the 1997 SEC rule changes. Working paper. SUNY-Buffalo. <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=308542>

12 Kee H. Chung, Bonnie Van Ness, and Robert Van Ness. [“Trading Costs and Quote Clustering on the NYSE and NASDAQ after Decimalization.”](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/F7.pdf) Journal of Financial Research 27 (Fall 2004), 309-328.

## E. Order preferencing

1 Benveniste, L., Marcus, A., Wilhelm, W., 1992. [What’s special about the specialist?](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/E1%20Benveniste%20and%20Marcus%201992.%20%20JFE.pdf) Journal of Financial Economics 32, 61-86.

Extension note: <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1676952>

5 Kee H. Chung**,** Chairat Chuwonganant, and Tim McCormick. [“Order Preferencing and Market Quality on NASDAQ Before and After Decimalization.”](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/E6_Order%20preferencing%20and%20market%20quality%20on%20NASDAQ%20before%20an.pdf) Journal of Financial Economics 71 (March 2004), 581-612.

6 Battalio, R., Corwin, S. A. and Jennings, R. (2016), Can Brokers Have It All? On the Relation between Make-Take Fees and Limit Order Execution Quality. The Journal of Finance, 71: 2193–2238. <http://onlinelibrary.wiley.com/doi/10.1111/jofi.12422/pdf>

## F. Market structure, execution costs, and high frequency trading (HFT)

1 Huang, R., Stoll, H., 1996. [Dealer versus auction markets: a paired comparison of execution costs on NASDAQ and the NYSE.](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/F1.pdf) Journal of Financial Economics 41, 313-357.

8 O’Hara, M., 2015. High frequency market structure. Journal of Financial Economics 116, 257-270.

<http://www.sciencedirect.com/science/article/pii/S0304405X15000045>

9 Stoll, Hans R., 2015. “[High Speed Equities Trading: 1993–2012](http://onlinelibrary.wiley.com/doi/10.1111/ajfs.12078/pdf).” Asia-Pacific Journal of Financial Studies 43, 767-797.

10 Conrad, Jennifer S. and Wahal, Sunil and Xiang, Jin, High Frequency Quoting, Trading, and the Efficiency of Prices (June 16, 2014). UNC Kenan-Flagler Research Paper No. 2357122. Available at SSRN: <http://ssrn.com/abstract=2357122> or <http://dx.doi.org/10.2139/ssrn.2357122>

11 Angel, James, Lawrence Harris and Chester Spatt, “[Equity Trading in the 21st Century](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1584026),” Quarterly Journal of Finance, v.1 (1), March 2011, 1-53.

<http://www.q-group.org/wp-content/uploads/2014/01/Equity-Trading-in-the-21st-Century-An-Update-FINAL1.pdf>

13 Rogers, J. L., Skinner, D. J. and Zechman, S. L. C. (2017), Run EDGAR Run: SEC Dissemination in a High-Frequency World. Journal of Accounting Research. doi:10.1111/1475-679X.12167

<http://onlinelibrary.wiley.com/doi/10.1111/1475-679X.12167/epdf>

15 Larry Harris, What to Do about High-Frequency Trading, Financial Analysts Journal 69, 6-9. <http://www.cfapubs.org/doi/pdf/10.2469/faj.v69.n2.6> (cut and paste this link to download the paper).

## G. Minimum price variation (tick size) and decimalization

1 Harris, L., 1994. [Minimum price variations, discrete bid-ask spreads, and quotation sizes](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/G1.pdf). Review of Financial Studies 7, 149-178.

2 Harris, L., 1997. [Decimalization: a review of the arguments and evidence](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/G2%20Decimalization.pdf). Working paper. University of Southern California, Los Angeles.

7 Kee H. Chung,Charlie Charoenwong, and David K. Ding. “[Penny Pricing and the Components of Spread and Depth Changes](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=458600).” Journal of Banking and Finance 28 (December 2004), 2981-3007.

9 Chordia, Tarun, Richard Roll, and Avanidhar Subrahmanyam, 2008, [Liquidity and market efficiency](http://ac.els-cdn.com/S0304405X07001833/1-s2.0-S0304405X07001833-main.pdf?_tid=357fd00c-3fcd-11e2-a650-00000aab0f6c&acdnat=1354816317_e1ee2715b513070ad8c4566ebbab8509), Journal of Financial Economics 87, 249-268.

10 O'Hara, Maureen and Saar, Gideon and Zhong, Zhuo, Relative Tick Size and the Trading Environment (July 27, 2015). Available at SSRN: <https://ssrn.com/abstract=2463360> or <http://dx.doi.org/10.2139/ssrn.2463360>

## H. Competition in the capital market

1 Wahal, S., 1997. [Entry, exit, market makers, and the bid-ask spread](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/H1.pdf). Review of Financial Studies 10, 871-901.

2 Weston. J., 2000. [Competition on the Nasdaq and the impact of market reforms](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/H2.pdf). Journal of Finance 55, 2565-2598.

6 Kee H. Chung and Youngsoo Kim. [“The Dynamics of Dealer Markets and Trading Costs.”](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=618745) Journal of Banking and Finance 29 (December 2005), 3041-3059.

7 Kee H. Chungand Chairat Chuwonganant. “[Quote-Based Competition, Market Share, and Execution Quality in NASDAQ-Listed Securities](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=954558)*.”* Journal of Banking and Finance 31 (September 2007), 2770-2795.

9 Kee H. Chung and Chairat Chuwonganant. “[Regulation NMS and Market Quality](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1455969).” Financial Management41 (Summer 2012), 285-317.

12 Malinova, K. and Park, A. (2015), Subsidizing Liquidity: The Impact of Make/Take Fees on Market Quality. Journal of Finance, 70: 509–536. <http://onlinelibrary.wiley.com/doi/10.1111/jofi.12230/pdf>

## I. Intraday patterns and test of alternative theories

1 McInish, T., Wood, R., 1992. [An analysis of intraday patterns in bid/ask spreads for NYSE stocks](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/I1.pdf). Journal of Finance 47, 753-764.

2 Brock, W., Kleidon, A., 1992. Periodic market closure and trading volume: a model of intraday bids and asks. Journal of Economic Dynamics and Control 16, 451-489.

3 Foster, F., Viswanathan, S., 1993. [Variations in trading volume, return volatility, and trading costs: evidence on recent price formation models](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/I3.pdf). Journal of Finance 48, 187-211.

4 Chan, K., Chung, P., Johnson, H., 1995. [The intraday behavior of bid-ask spreads for NYSE stocks and CBOE options.](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/I4---Chan,%20K.,%20Chung,%20P.,%201995%20JF.pdf) Journal of Quantitative and Financial Analysis 30, 329-346.

5 Chan, K., Christie, W., Schultz, P., 1995. Market structure and the intraday pattern of bid-ask spreads for Nasdaq securities. Journal of Business 68, 35-60. <http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/I5.pdf>

6 Chung, K., Van Ness, B., Van Ness, R., 1999. [Limit orders and the bid-ask spread.](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/I6.pdf) Journal of Financial Economics 53, 255-287.

#### 7 Kee H. Chungand Xin Zhao. [“Intraday Variation in the Bid-Ask Spread: Evidence after the Market Reform.”](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/I7.pdf) Journal of Financial Research 26 (Summer 2003), 191-206.

## J. Spread, depth, and information release

1 Lee, C., Mucklow, B., Ready, M., 1993. [Spreads, depths, and the impact of earnings information: an intraday analysis](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/J1.pdf). Review of Financial Studies 6, 345-374.

7 Shai Levi, Xiao-Jun Zhang, Asymmetric decrease in liquidity trading before earnings announcements and the announcement return premium, Journal of Financial Economics 18, November 2015, 383-398. <http://www.sciencedirect.com/science/article/pii/S0304405X15001427>

## K. Trades, information, and prices

1 Hassbrouck, J., 1988. [Trades, quotes, inventories, and information](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/K1---Hasbrouck%201988%20JFE%20Quotes.pdf). Journal of Financial Economics 22, 229-252.

2 Hassbrouck, J., 1991. [Measuring the information content of stocks trades](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/K2.pdf). Journal of Finance 46, 179-206.

3 Kee H. Chung, Mingsheng Li, and Thomas H. McInish. [“Information-Based Trading, Price Impact of Trades, and Trade Autocorrelation.”](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=551143) Journal of Banking and Finance 29 (July 2005), 1645-1669.

4Kee H. Chung**,** Chairat Chuwonganant, and Jing Jiang. [“The Dynamics of Quote Adjustments.”](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1078800) Journal of Banking and Finance 32 (November 2008), 2390-2400.

5 David Easley, Marcos M. López de Prado, and Maureen O'Hara. “[Flow Toxicity and Liquidity in a High-frequency World](http://rfs.oxfordjournals.org/content/25/5/1457).” Review of Financial Studies (2012) 25(5): 1457-1493.

6 Torben G. Andersen, Oleg Bondarenko, VPIN and the flash crash, Journal of Financial Markets, Available online 30 October 2012, ISSN 1386-4181, 10.1016/j.finmar.2012.10.001.

(<http://www.sciencedirect.com/science/article/pii/S1386418112000389>)

<https://insight.kellogg.northwestern.edu/article/the_trouble_with_vpin>

7 Turan G. Bali, Lin Peng, Yannan Shen, and Yi Tang, [Liquidity Shocks and Stock Market Reactions](http://rfs.oxfordjournals.org/content/27/5/1434.full.pdf+html) Review of Financial Studies (2014) 27 (5): 1434-1485

8 Akbas, F. (2016), The Calm before the Storm. The Journal of Finance, 71: 225–266.

<http://onlinelibrary.wiley.com/doi/10.1111/jofi.12377/pdf>

## L. Commonality in liquidity and market efficiency

1 Chordia, T., Roll, R., Subrahmanyam, A., 2000. [Commonality in liquidity](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/L1.pdf). Journal of Financial Economics 56, 3-28.

3 Coughenour J., Saad, M., 2004. [Common market makers and commonality in liquidity](http://www.acsu.buffalo.edu/~keechung/MGF743/Readings/L3.pdf). Journal of Financial Economics 73, 37-69.

4 G. Andrew Karolyi, Kuan-Hui Lee, Mathijs A. van Dijk, [Understanding commonality in liquidity around the world](http://ac.els-cdn.com/S0304405X11002844/1-s2.0-S0304405X11002844-main.pdf?_tid=c79b281e-3fce-11e2-afe9-00000aacb362&acdnat=1354816992_2cf5e758e97da9ae9cc8314da0a88342), Journal of Financial Economics, Volume 105, Issue 1, July 2012, Pages 82-112

5 Kee H. Chungand Chairat Chuwonganant. “[Uncertainty, Market Structure, and Liquidity](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2363755).” Journal of Financial Economics 113 (September 2014), 476-499.

7 Andrew Koch, Stefan Ruenzi, and Laura Starks, Commonality in Liquidity: A Demand-Side Explanation. Review of Financial Studies (2016) 29 (8): 1943-1974.

<http://rfs.oxfordjournals.org/content/29/8/1943.full.pdf+html>

9 Kee H. Chung and Chairat Chuwonganant. 2017. “Market Volatility and Stock Returns: The Role of Liquidity Providers.” Working paper. SUNY at Buffalo.

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**M. Disclosure, transparency, and market quality**

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