

אוניברסיטת בן-גוריון בנגב
הפקולטה לניהול
הצעה לקורס חדש – תואר שני
המחלקה למנהל עסקים

המסחר בבורסה-תיאוריה ופרקטיקה
TRADING AND EXCHANGES

מיון 68724211 : דרישות קדם:
סדנא : אופן הוראה:
בחירה במגמה: במיון, מימון וביטוח : סוג מקצוע:

BACKGROUND

Trading quality matters. On average, the best traders raise returns at institutional trading desks by over 0.5%, which is more than many active funds earn from stock-picking. What do top traders know that others don't? This course covers the structure of trading in financial assets including equities, foreign exchange, commodities, and bonds. Students learn about market structures, sources and cost of liquidity, the price discovery process, and how these affect an asset's expected return. All major points are supported with empirical evidence and real-world examples. Lessons are relevant to anyone who needs to trade or who might be involved in designing or regulating financial markets.

Students participate in three trading simulations, two of them in class. Students make a short presentation on the last day of class. Class discussion, assignments, and exams are in English.

איכות המסחר קובעת. בממוצע, הסוחרים הטובים ביותר מגדילים את התשואות בקרב המשקיעים המוסדיים בכ- 0.5%, שזה יותר מהביצועים של קרנות פעילות בשוק המניות. מה הסוחרים הטובים ביותר יודעים שאחרים לא? הקורס הזה יעסוק במבנה המסחר בשווקים פיננסיים, הכוללים מניות, מט"ח, סחורות ואג"ח. הסטודנטים ילמדו על מבנה השווקים, על המקורות ומחיר הנזילות, על תהליך קביעת המחירים, ואיך כל אלה משפיעים על התשואה הצפויה של נכסים פיננסיים. עיקר הנושאים בקורס נתמכים בראיות אמפיריות ונלמדים בעזרת מקרים אמיתיים מהשווקים בעולם. הקורס רלוונטי לכל מי שמעורב בשימוש, עיצוב או רגולציה של שווקים פיננסיים.

TOPICS AND LEARNING GOALS

- **Market basics:** Who trades, when do they trade, what do they trade? What regular patterns are there in trading, bid-ask spreads, returns, and volatility?
- **Market structures:** Students learn the structure of dealership markets, limit-order markets, call markets, two-tier markets. The types of orders available in each type of market and the factors that drive order choice.
- **Trading practice:** Students simulate trading in dealership, OTC, and call markets, sometimes trading against each other in class.
- **The microeconomics of trading:** What determines the cost of liquidity? How does information get into security prices, and how does this process vary according to market

structure? What is “market transparency,” and is it always a good thing? Why are there so many extremely large asset-price moves, even in the absence of news surprises?

- ***Influence of microstructure on asset pricing***: How are asset returns influenced by market microstructure features such as liquidity, transparency, and insider-trading rules? We discuss how do stop-loss orders help explain the profitability of carry-trade strategies in currency markets?

BIBLIOGRAPHY

BACKGROUND, FINANCIAL MARKET STRUCTURES

- Equities: Harris, *Trading and Exchanges*, Chapters 2 – 8, 24
- FX: King, Osler, Rime, “Foreign Exchange Market Structure, Players, and Evolution,” Norges Bank Working Paper 2011-10.
- Fixed Income: Mizrach and Neely, *The Microstructure of the U.S. Treasury Market*, Sections 1-9 (pp. 2-18).

LIQUIDITY PROVISION AND BID-ASK SPREADS

- Intro only: Christie, William, and Paul Schultz (1994), Why do NASDAQ market makers avoid odd-eighth quotes? *Journal of Finance* 49, 1813–1840.
- Intro only: Barclay, Christie, Harris, Kandel, Schultz (1999), “Effect of Market Reform on the Trading Costs and Depth of NASDAQ Stocks.” *Journal of Finance* 54: 1-34.
- Intro Only: Comerton-Forde, Carole, Hendershott, Jones, Moulton, Seasholes. Time Variation in Liquidity: The Role of Market Maker Inventories and Revenues. (*Journal of Finance*).
- Glosten Lawrence R., Milgrom Paul R. (1985). “Bid, Ask, and Transaction Prices in a Specialist Market with Heterogeneously Informed Traders.” *Journal of Financial Economics* 14: 71- 100.
- Bjønnes, Kathitziotis, Osler (2015). Price Discrimination and the Cost of Liquidity in OTC Markets. Working paper.

ORDER CHOICE

- Menkhoff, Osler, Schmeling, “Limit-Order Submission Strategies under Asymmetric Information.” *Journal of Banking and Finance* 34(11) (November 2010): 2665-2677.
- Osler & Savaser (2011). “Extreme Returns: The Case of Currencies,” *Journal of Banking and Finance* 35: 2868-2888.

ORDER FLOW, AND PRICE DISCOVERY

- Sections 4 & 5 only (pages 22, middle, through 30)! Osler, Mende, Menkhoff, “Price Discovery in Currency Markets,” *Journal of International Money and Finance* 30 (8): 1696-1718. Page proofs.

MICROSTRUCTURE AND ASSET PRICING

- Intro Only: MacDonald, R. “Expectations Formation and Risk in Three Financial Markets: Surveying What the Surveys Say.” *Journal of Economic Surveys*, 14 (2000): 69-100.
- Intro Only: Amihud, Y., H. Mendelson and L. H. Pedersen (2006). Liquidity and asset prices. *Foundations and Trends in Finance* 1(4): 269-URL: <http://pages.stern.nyu.edu/~lpederse/papers/LiquidityAssetPricing.pdf>
- Plantin & Shin (2011). Carry Trades, Monetary Policy and Speculative Dynamics. C.E.P.R. Discussion Papers, CEPR Discussion Papers: 8224
- Carry trade: Pages 20-30 only. Osler, “Market Microstructure and the Profitability of Currency Trading.”

SUGGESTED READINGS FOR CERTAIN MARKET DESIGN TOPICS

High-frequency trading

- *Conrad, Wahal, Xiang (May 2015). High-Frequency Quoting, Trading, and the Efficiency of Prices* *Journal of Financial Economics* 116(2): 271-91
- *Brogaard, Hendershott, and Riordan (August 2014). High-Frequency Trading and Price Discovery*, *Review of Financial Studies* 27(8): 2267-2306
- *O'Hara (May-June 2014). High-Frequency Trading and Its Impact on Markets*, *Financial Analysts Journal*, 70(3): 18-27

Designated Liquidity Provider?

- Mann, Venkataraman, & Waisburd (2003). Stock Liquidity and the Value of a Designated Liquidity Provider: Evidence from Euronext Paris. WP Texas Christian University. <http://www.cabafx.com/trading-ebooks-collection/Mann,%20Venkataraman%20And%20Waisburd-Stock%20Liquidity%20And%20The%20Value%20Of%20A%20Designated%20Liquidity%20Provider%20Evidence%20From%20Paris%20Euronext.pdf>
- Nimalendran & Petrella (2003). Do “Thinly-Traded” Stocks Benefit from Specialist Intervention? *Journal of Banking and Finance* 27 (2003) 1823–1854.
- Anand, Weaver (2006). The Value of the Specialist: Empirical Evidence from the CBOE. *Journal of Financial Markets* 9(2): 100-118.
- Anand, Tanggaard, and Weaver (2009). Paying for Market Quality. *Journal of Financial and Quantitative Analysis* 44(December): 1427-1457.

Transparency

- Madhavan, Porter, and Weaver, (2005). “Should Securities Markets be Transparent?” *Journal of Financial Markets* 8: 266-277. ONLY through Section 4.2.
- Boehmer, Saar, Yu, “Lifting the Veil: An Analysis of Pre-trade Transparency at the NYSE,” *Journal of Finance* 60 (2): 783-815.
- Grossman, Sanford, and Merton Miller (1988). Liquidity Provision and Market Structure. *Journal of Finance* 43: 617-633.

Insider Trading

- Lewis, Michael, “Jonathan Lebed: Stock Manipulator, S.E.C. Nemesis – and 15,” *New York Times* February 25, 2001.
<http://www.nytimes.com/2001/02/25/magazine/25STOCK-TRADER.html?pagewanted=all>
- Bhattacharya, Daouk, Jorgenson, Kehr (2000). “When an Event is Not an Event: The Curious Case of an Emerging Market.” Working paper version (ultimately published in *Journal of Financial Economics*).
- Bhattacharya & Daouk (2002). “World Price of Insider Trading,” *Journal of Finance* 57(1): 75-108.
- Bhattacharya, Daouk (2004). “When No Law is Better Than a Good Law.” CEI Working Paper Series 2004-10.
- King (Winger 2009). “Prebid Run-Ups Ahead of Canadian Takeovers: How Big is the Problem?” *Financial Management*: 699-726.

Circuit Breakers

- Ackert, Church, and Jayaraman (2001). “An Experimental Study of Circuit Breakers: The Effect of Mandated Market Closures and Temporary Halts on Market Behavior,” *Journal of Financial Markets* 4: 185-208.
- Corwin and Lipson (2000). “Order Flow and Liquidity Around NYSE Trading Halts,” *Journal of Finance* 55: 1771-1801.
- Goldstein and Kavajecz (2005). “Trading Strategies During Circuit Breakers and Extreme Market Movements,” *Journal of Financial Markets* 7: 301-333.

Short-sale Constraints

- Harris, Namvar, Phillips (2009). Price inflation and wealth transfer during the 2008 SEC short-sale ban. <http://www.nber.org/confer/2009/mms09/namvar.pdf>.
- Boehmer, Jones, Zhang (2009). Shackling Short Sellers: The 2008 Shorting Ban. <http://ssrn.com/paper=1412844>.
- Jain, Jain, McNish (2013). Worldwide Reach of Short Selling Regulations, *Journal of Financial Economics* July 2013 (109): 177-97.
- Beber & Pagano (2013). Short-Selling Bans Around the World: Evidence from the 2007-2009 Crisis, *Journal of Finance* 68(1): 343-381.

Tick Size

- Chakravarty, Harris, Wood (2001), “Decimal Trading and Market Impact,” Working Paper. <http://www2.owen.vanderbilt.edu/fmrc/Activity/paper/DecimalsVer2.1.pdf>
- Goldstein and Kavajecz, "Eighths, Sixteenths, and Market Depth: Changes in Tick Size and Liquidity Provision on the NYSE" *Journal of Financial Economics*, April 2000, Vol. 56: 125-149.
- Tavy Ronen, Daniel G Weaver (2001). “Tennies” Anyone? *Journal of Financial Markets* 4(3): 231-260

Hidden Orders

- De Winne and D.Hondt (2007). Hide-and-Seek in the Market: Placing and Detecting Hidden Orders, *Review of Finance* 11, 663-692.

- Hasbrouck and Saar (2009). Technology and Liquidity Provision: The Blurring of Traditional Definitions, *Journal of Financial Markets*, 12, 143-172.
- Bessembinder, Panayides, and Venkataraman, (2009). Hidden Liquidity: An Analysis of Order Exposure Strategies in Electronic Stock Markets, *Journal of Financial Economics* 94, 361-383.
- Aitken, Berkman, Mak (2001). The use of undisclosed limit orders on the Australian Stock Exchange, *Journal of Banking and Finance* 25, 1589-1603.
- Harris (1997), Order Exposure and Parasitic Traders, University of Southern California Working Paper.
- Anand and Weaver (2002). Can order exposure be mandated? *Journal of Financial Markets*, 7, 405-426.
- Belter (2007). Supply and Information Content of Order Book Depth: The case of displayed and hidden depth, Aarhus School of Business, Working Paper.

COURSE EVALUATION

- Problem sets 25%
- Market-design presentation 25%
- Final exam (see note 2 below) 50%

NOTES

- **Participation:** Since the entire workshop is very short, failure to attend cumulatively more than half a day in the course will result in a failing grade and, thus, make sure to attend throughout the course and participate in class discussions.
- **The exam is not a take-home exam.** It will be held on Sunday, April 3, 2016.
-

PRESENTATION TOPICS

Pairs of students will each make a 10-minute in-class presentation evaluating whether a specific market design feature is suitable for a specific financial market. Presentation will include

- Clear recommendation
- Review of the market: history, size, etc.
- Synthesis of relevant academic research and how it applies to this market

At most one group per topic. Interesting market design features include

- Dark pools
- Circuit breakers
- Regulation or market design measures related to HFT
- Hidden orders
- Short-sale constraints
- Pre-trade transparency
- Post-trade transparency
- Tick size
- Insider trading
- Opening and/or closing call markets
- Designated liquidity provide

March 27-April 3, 2016

Detailed Course Schedule

Session Times	Sun. March 27	<u>Monday</u> <u>March 28</u>	Tuesday March 29	Wednesday March 30	Sunday April 3
Session 1 9:00 to 10:20	Introduction: Tour of worldwide financial markets	Liquidity II: Costs of liquidity – Monopoly rents, operating costs	Liquidity provision in OTC markets, where trading is not anonymous	Positive- feedback trading & volatility	Presentations I
10:20 to 10:30	Break	Break	Break	Break	Break
Session 2 10:30 to 12:00	Limit-order markets: Trading simulation & discussion	Liquidity III: Costs of liquidity – Inventory costs	Cost of liquidity at global custody banks	Trading at the fix	Presentations I
12:00-13:00	Lunch	Lunch	Lunch	Lunch	Lunch
Session 3 13:00-14:20	OTC and clearinghouse markets. How dealers set prices	Call Markets: Trading simulation & discussion	Order flow and prices I – Information & price discovery	Why is there so much trading in financial markets?	Final exam
14:20-14:30	Break	Break	Break	Break	
Session 4 14:30-17:00	Liquidity I: What is liquidity? How is it measured?	Liquidity III: Costs of liquidity – Adverse selection	Order flow and prices II – Downward- sloping demand and liquidity	Microstructure and asset pricing	
Assignment	Pick market and market design feature for project. Learn about your market	Summarize 3-4 academic papers related to market	Begin drafting market design presentation	Finish draft of market design presentation Problem set 3	

	Problem set 1	design feature	Problem set 2		
--	---------------	-------------------	------------------	--	--

תתימת מכין הסילבוס: PROF' CAROL OSLER

תאריך: _3/1/2016_

אישור ועדת ההוראה של המחלקה למנהל עסקים

שם ראש המגמה _____ חתימה: _____ תאריך: _____
 יו"ר ועדת ההוראה: ד"ר צביקה אפיק _____ תאריך: _____
 אושר/לא אושר _____ חתימה: _____
 ראש מחלקה: פרופ' מיכאל בר אלי _____ תאריך: _____
 אושר/לא אושר _____ חתימה: _____

אישור ועדת הוראה של הפקולטה

פרופ' עופר עזר: _____
 אושר/לא אושר: _____ תאריך: _____
 הערות:
