

## Barbara Rindi

Bocconi University, IGIER and Baffi-Carefin

Department of Finance

Grafton Building, 2-D1-08

Via G. Roentgen 1, 20136 Milan, Italy

Phone: +39 (02) 5836-5328

barbara.rindi@unibocconi.it

Webpage: <https://finance.unibocconi.eu/people/barbara-rindi>

# Bocconi

## Education

- Ph.D. in Economics and Finance, Italy, 1993
- M.Sc. in Economics, London School of Economics, 1986
- B.A. in Economics (with honors), Bocconi University, 1984

## Research Interests

Market Microstructure, Financial Markets Regulation, Auction Design, Trading Mechanisms

## Publications in Refereed Journals

- *Tick Size, Trading Strategies and Market Quality*, Management Science, 2023, Volume 69, Issue 7, 3818–3837 (with I.M. Werner, S. Buti, Y. Wen)
- *Diving Into Dark Pools*, Financial Management, 2022, 51(4), 961–994 (with I.M. Werner, S. Buti)
- *Dark Pool Trading Strategies*, Journal of Financial Economics, 2017, 124, 244–265 (with S. Buti, I.M. Werner)
- *Lot Size Constraints and Market Quality: Evidence from the Borsa Italiana*, Financial Management, 2015, Winter, 905–945 (with A. Gozluklu, P. Perotti, R. Fredella)
- *Undisclosed Orders and Optimal Submission Strategies in a Limit Order Market*, Journal of Financial Economics, 2013, 109(3), 797–812 (with S. Buti)
- *The Impact of a Closing Call Auction on Market Quality and Trading Strategies*, Journal of Financial Intermediation, 2012, 21, 23–49 (with E. Kandel, L. Bosetti)
- *Market Makers as Information Providers: The Natural Experiment of Star*, Journal of Empirical Finance, 2010, 17, 895–917 (with P. Perotti)
- *Informed Traders as Liquidity Providers. Anonymity, Liquidity and Price Formation*, Review of Finance, 2008, 12, 497–532
- *Market for Information and Identity Disclosure in an Experimental Automated Double Auction*, Economic Notes, 2006 (with P. Perotti)

- *The Quality of the Italian Treasury Bond Market, Asymmetric Information and Transaction Costs*, *Annales d'Economie et Statistique*, 2000, 2, 1–19 (with S. Albanesi)
- *The Italian Electronic Secondary Market for Treasury Bonds (MTS): Institutions, Liquidity and Market Structure*, *International Review of Economics and Business*, 1999, 7, 41–92
- *Preannouncement with Strategic Speculators*, *International Review of Economics and Business*, 1997, XLIV(2), 241–268
- *Asymmetric Information and Financial Market Structure: From Perfect to Imperfect Competition*, *Economia Politica*, 1994, 2, 315–360
- *Is Preannouncement Robust to Distorted Messages?*, *International Review of Economics and Business*, 1992, 2, 131–157
- *Financial Anomalies: The Italian Stock Market*, *Research in Economics*, 1992, XLVI, 303–325 (with F. Corielli)
- *Evolution of GNMA Prices: Empirical Evidence*, *International Review of Economics and Business*, 1991, 38, 453–473
- *The Effect of Financial Futures Trading on Cash Market Prices: A Survey*, *Giornale degli Economisti e Annali di Economia*, 1988, July–August, 333–359

## Books

- *The Microstructure of Financial Markets*, Cambridge University Press, 2009 (with Frank de Jong)
- *Introduction to International Monetary Economics*, EGEA, 1999

## Working Papers

- *Manipulation-Free Trading Mechanisms: Auction Design Approach*, 2025 (with Giuliano Graziani (Università Bocconi) and Stefano Lovo (HEC))

Abstract: This paper proposes new financial market mechanisms through an auction design approach. We first introduce a simultaneous mechanism as an alternative to dark pools. This mechanism endogenously separates buyers from sellers, avoiding the transparency and manipulation issues inherent in traditional dark pools. Next, we study efficient mechanisms under information uncertainty and learning. We propose a sequential trading mechanism that progressively announces signals, effectively overcoming the issues of manipulation and speed races associated with standard Limit Order Books.

- *Trading Fees and Intermarket Competition*, 2024 (with Ingrid Werner (The Ohio State University) and Marios Panayides (University of Oklahoma))

[SSRN Link](#)

Abstract: We study the 2013 changes in maker-taker pricing fees implemented by BATS on its two European venues, CXE and BXE. The CXE rebate reduction deteriorates market quality and market share, whereas the BXE rebate removal and take-fee reduction improve them. We

derive a model of two competing limit order books, in which large (small) stocks are characterized by investors with higher (lower) propensity to supply liquidity and by greater (lower) trading activity. Consistent with our model, we show that traders in large stocks are more reactive to rebate reductions while traders in small stocks are more reactive to take-fee reductions.

- *Optimal Fee Pricing*, 2024 (with Roberto Riccò (Norwegian School of Economics) and Duane Seppi (Carnegie Mellon University))

[SSRN Link](#)

Abstract: We show that trading fee breakdown depends on the investors' gains-from-trade relative to tick size. Absent price discreteness, an increase in investor gains-from-trade increases the total fee proportionally but has no effect on fee-breakdown. With price discreteness, fee-breakdown can improve welfare when gains-from-trade are small relative to tick size. When gains-from-trade are large, exchange fee-breakdown plays a small role, and exchanges extract rents from investors' gains-from-trade by increasing total fees. The resulting gap between welfare relative to fees set by a Social Planner can be large. Consequently, a regulator can improve welfare substantially by imposing a cap on exchange fees.

- *Optimal Tick Size*, 2023 (with Giuliano Graziani (Università Bocconi))

[SSRN Link](#)

Abstract: We use a limit order book model to determine the optimal tick size that maximizes market participants' welfare. When investors arrive sequentially with no competition in liquidity provision, a zero-tick size can be optimal. However, when investors can supply liquidity by either undercutting or queuing behind existing orders, the optimal tick size becomes a positive function of the asset's value and a negative function of trading activity. In assessing changes in tick size, we find that quoted spread is the most effective proxy for total welfare. Our findings suggest that both the European tick size regime and, to a degree, the SEC's 2022 proposal dominate Reg. NMS Rule 612.

- *Non-Stationary vs. Stationary Equilibrium in Dynamic Limit Order Markets*, 2023 (with Roberto Riccò (Norwegian School of Economics) and Duane Seppi (Carnegie Mellon University))

[SSRN Link](#)

Abstract: We solve non-stationary and stationary models of a limit-order market to investigate time dynamics and the effects of adverse selection and path dependency on equilibrium strategies, market quality, price discovery and welfare. These effects depend on the value of information and therefore on volatility. Increased adverse -investors become the best liquidity providers so that a selection - proxied by the proportion on informed investors - improves market quality and deteriorates informed welfare. However, with high volatility, informed-investors act as speculators, and uninformed increased proportion of informed improves their welfare. With low volatility instead, the informed act as market makers and crowd out the uninformed, so that an increased proportion of informed people reduces uninformed welfare. Our analysis delivers new results on liquidity, order informativeness, welfare, and transmission mechanisms.

- *Trading @ The Close*, 2022 (with Carole Comerton-Forde (The University of Melbourne))

[SSRN Link](#)

Abstract: Closing auction activity and index investing have grown substantially in global equity markets. Examining call auctions in Europe, we show increases in auction activity are not

explained by index investing. Elevated auction activity, especially on index rebalance days, contributes to large auction returns from the last continuous trade price. These returns are permanent in liquid stocks. In less liquid stocks only a small fraction of the return is reversed the next day. These results demonstrate closing auctions are important price discovery events. We find no evidence that increases in auction activity harm market quality during continuous trading.

- *U.S. Tick Size Pilot*, 2019 (with Ingrid Margareta Werner (The Ohio State University))

[SSRN Link](#)

Abstract: The U.S. equity markets recently increased the tick size from one to five cents for smaller capitalization stocks. We show that the larger tick size raised the cost for retail-sized liquidity demanding orders by almost fifty percent and raised profits to liquidity providers by forty percent. The bulk of the effects occurred for tick-constrained stocks for which trading costs more than doubled. Trading costs for unconstrained stocks declined by more than ten percent. Finally, we document significant changes in market quality for control stocks relative to similar stocks that were not part of the study.

## Editorial Activities

- **2021 to present:** Associate Editor for the *Journal of Financial Markets*.
- Reviewer for:
  - *Journal of Finance*, *Review of Financial Studies*, *Management Science*, *Journal of Financial and Quantitative Analysis*,
  - *Journal of Financial Intermediation*, *Review of Finance*, *Journal of Financial Markets*, *Journal of Empirical Finance*,
  - *International Journal of Finance and Economics*, *The B.E. Journal of Theoretical Economics*, *Algorithmic Finance*,
  - *Review of Statistics*, *Journal of Economics and Business*, *International Review of Economics and Business*,
  - *Research in Economics*, *Journal of Business Ethics*, *Journal of Management and Governance*, *EGEA ed.*

## Scientific Committee Membership

### Program Committee:

- 2014 to present, European Finance Association (EFA) Meeting
- 2021 to present, Plato Conference
- 2021 to present, Microstructure Exchange
- 2014–2019, Western Finance Association (WFA) Meeting
- 2016–2019, Finance Down Under (FDU)

- 2016, Midwest Finance Association (MFA) Meeting
- 2014, American Finance Association (AFA) Conference
- 2012, 2013, 2019, Consob-Carefin Annual Conference

#### Section Chair:

- European Finance Association (EFA) Meeting (2023), Amsterdam, Netherlands
- European Finance Association (EFA) Meeting (2022), Barcelona, Spain
- European Finance Association (EFA) Meeting (2021)
- European Finance Association (EFA) Meeting (2018)
- European Finance Association (EFA) Meeting (2014)
- American Finance Association (AFA) Conference (2014)
- Financial Intermediation Research Society (FIRS) Conference (2013)
- Annual Central Bank Workshop on the Microstructure of Financial Markets (2009)

## Grants and Awards

- **2023** PRIN (Progetti di Ricerca di Rilevante Interesse Nazionale) with Fabrizio Lillo (Università di Bologna), Giacomo Bormetti (Università di Bologna), and Claudio Tebaldi (Università Bocconi). Ministero dell'Università e della Ricerca (MIUR), Codice 20227TCX5W. Title: *Liquidity and systemic risks in centralized and decentralized markets*.
- **2020** Bocconi Senior Research Grant: *Trading @ the Close*. Working paper available at: [SSRN](#)
- **2019** Baffi-Carefin Grant: *Trading Fees: Evidence from Experimental Asset Market*
- **2019** Bocconi Senior Researchers' Grant: *Optimal Trading Fees*. Working paper accepted for presentation at WFA 2019: [WFA Program](#)
- **2016** Baffi Carefin Grant: *U.S. Tick Size Pilot*. Available at: [SSRN](#)
- **2014** Baffi-Carefin Grant: *Pricing Competition between Lit and Dark Venues: Empirical Evidence from BATS Europe*. EFA 2018, 8th Erasmus Liquidity Conference, Central Bank Conference in Market Microstructure: [Paper Link](#)

## Courses Taught

- **2011–2025** PhD – Bocconi University: *Market Microstructure Models*
- **2016–2017, 2018–2019** PhD – Bocconi University: *Market Microstructure Reading Group*
- **2011–2025** Master in Quantitative Finance (MAFINRISK) – Bocconi University: *Market Microstructure*

- **2007–2025** M. Phil – Bocconi University: *Information and the Architecture of Financial Markets*
- **2002–2025** Undergraduate – Bocconi University: *The Microstructure of Financial Markets*
- **2001–2007** Undergraduate – Bocconi University: *International Monetary Economics*

## PhD Supervision

**2024:** PhD Thesis Committee Discussant – Academic Council, Copenhagen Business School (Lars Christian Larsen).

**2021–present:** PhD Advisor – Bocconi University (Giuliano Graziani, Andrea Andolfatto).

**2011–2019:** PhD Advisor – Bocconi University (Roberto Riccò, Yuanji Wen, Francesco Consonni).

## Institutional Roles and Services at Bocconi

- Tutor, 3/4-month IGIER Field Projects

**2020–2025:** Simone De Giorgi, Giorgio Gagliardo, Riccardo Aiello, Li Cheng, Matteo Brusasco, Luca Pietrimbiasi, Giovanni Carron, Filippo Panfoli, Pietro Scarano, Marvin Pappaletta, Michele Toninelli, Tiago Guardao, Matteo Bianco, Chunyan Gong, Federico Chinello, Marta Leva, Alessandro Magi, Alessandro Berutti, Chiara Cerrato, Davide Martintoni.

**2016–2019:** Noemi Mangini, Jianglin Chen, Danyan Peng, Leonardo Timperi, Ruggero Doino, Andrea Giglio, Giovanni Bardone, Jacopo Smorgon, Marco Semeria, Andrea Lupi, Alessandra Montalbano, Mattia Morale, Gianmarco Mulazzani, Ettore Tisi, Alberto De Marchi, Pierluigi Barone, Mattia Conte, Nunzio Lorè, Domenico Biasi, Alberto Caron.

**2014–2015:** Gualtiero Azzalini, Giacomo Lemoli, Maya Volwahren, Carlo Baroni.

## Invited Presentations at Conferences

- **2024:** First QRFE Workshop in Quantitative Finance at the Quantitative Research in Financial Economics (QRFE) centre, Durham (UK), *Optimal Tick Size* (with Giuliano Graziani and Bart Yueshen)

- **2023:** CFM-Imperial Workshop on Market Microstructure, Imperial College London – *Optimal Tick Size* (with Giuliano Graziani and Bart Yueshen)

European Finance Association Meeting, Amsterdam – *Optimal Fee Pricing* (with R. Riccò and Duane Seppi).

European Finance Association Meeting, Poster Session, Amsterdam – *Optimal Tick Size* (with G. Graziani).

Financial Management Association Annual Meeting, Chicago – *Trading Fees and Intermarket Competition* (with M. Panayides and I.M. Werner).

- **2022:** Stockholm Business School – *Optimal Tick Size* (with Giuliano Graziani)

Western Finance Association Meeting (Oregon) – *Trading Fees and Intermarket Competition* (with M. Panayides and I.M. Werner).

- American Finance Association Meeting (AFA, Boston) – Discussion: *The Conduits of Price Discovery: A Machine Learning Approach*, by Amy Kwan, Richard Philip and Andriy Shkilko.
- **2021:** U.S. Security and Exchange Commission (SEC) 8th Annual conference on Financial Market regulation – Discussion: *The effects of Hidden Liquidity: Evidence from an Exogenous Shock*, by E. Edwards, P. Hughes, J. Ritter, P. Vegella and H. Zhang.
- European Finance Association Meeting, Milan, Italy – *Trading @ the Close* (with C. Comerton-Forde).
- Microstructure Exchange – *Trading @ the Close* (with C. Comerton-Forde).
- Central Bank Conference in Market Microstructure, Zurich – *Trading @ the Close* (with C. Comerton-Forde).
- Plato Conference – *Trading @ the Close* (with C. Comerton-Forde).
- **2020:** Western Finance Association Meeting, Huntington Beach, CA – Discussion: *Trading on Long-Term Information*, by C. Garriott and R. Riordan.
- Plato Conference – *Trading Fees and Intermarket Competition* (with I.M. Werner and M. Panayides).
- **2019:** Western Finance Association Meeting, Huntington Beach, CA – *Optimal Market Access Pricing* (with R. Riccò and Duane Seppi).
- American Finance Association Meeting, Atlanta – *Information, Liquidity, and Dynamic Limit Order Markets* (with R. Riccò and Duane Seppi).
- **2018:** Western Finance Association Meeting, Coronado, CA – *Information, Liquidity, and Dynamic Limit Order Markets* (with R. Riccò and Duane Seppi).
- SAFE Conference, Frankfurt – *Information, Liquidity, and Dynamic Limit Order Markets* (with R. Riccò and Duane Seppi).
- SAFE Conference, Frankfurt – Discussion for *Who Supplies Liquidity, and When?* by Xin Wang and Mao Ye.
- **2017:** Central Bank Workshop on the Microstructure of Financial Markets, London – *Trading Fee and Intermarket Competition* (with M. Panayides and I.M. Werner).
- European Finance Association Meeting, Mannheim – *Trading Fee and Intermarket Competition* (with M. Panayides and I.M. Werner).
- 8th Erasmus Liquidity Conference, Rotterdam – *Trading Fee and Intermarket Competition* (with M. Panayides and I.M. Werner).
- **2016:** Bank of England invited seminar – *Trading Fee and Intermarket Competition* (with M. Panayides and I.M. Werner), October 21.
- **2015:** NBER Market Microstructure Meeting, Boston – Discussion: *Shades of Darkness: A Pecking Order of Trading Venues* (Menkveld, Zhou Yueshen and Zhu).
- Financial Intermediation Research Society, Reykjavik – *Dark Pool Trading Strategies* (with S. Buti and I.M. Werner).

- **2014:** Econometric Society European Meeting, Toulouse – *Dark Pool Trading Strategies* (with S. Buti and I.M. Werner).  
 Western Finance Association Meeting, Monterey – *Tick Size Regulation and Sub-Penny Trading* (with S. Buti, F. Consonni, Y. Wen and I.M. Werner).  
 European Finance Association Meeting, Lugano – *Sub-Penny and Queue-Jumping* (with F. Consonni, I.M. Werner, Y. Wen and S. Buti).  
 World Finance Conference, Venice – *Sub-Penny and Queue-Jumping* (with F. Consonni, I.M. Werner, Y. Wen and S. Buti).  
 Financial Management Association Meeting, Rome – *Sub-Penny and Queue-Jumping* (with F. Consonni, I.M. Werner, Y. Wen and S. Buti).
- **2013:** American Finance Association Meeting, Chicago – *Dark Pool Trading Strategies* (with S. Buti and I.M. Werner).  
 NBER Conference, Boston – *Sub-Penny and Queue-Jumping* (with F. Consonni, I.M. Werner, Y. Wen and S. Buti).  
 European Finance Association Meeting, Cambridge – *Tick Size Regulation and Sub-Penny Trading* (with S. Buti, Y. Wen and I.M. Werner).  
 European Accounting Association Annual Meeting, Paris – *Lot Size Constraints and Market Quality* (with A. Gozluklu, P. Perotti and R. Fredella).
- **2012:** American Finance Association Meeting, Chicago – *Tick Size Regulation and Sub-Penny Trading* (with S. Buti, Y. Wen and I.M. Werner).  
 Central Bank Workshop on the Microstructure of Financial Markets, Stavanger – *Tick Size Regulation and Sub-Penny Trading* (with S. Buti, Y. Wen and I.M. Werner).  
 Financial Management Association Meeting, Istanbul – *Should Markets Impose a Minimum Trade Unit?* (with P. Perotti and R. Fredella).
- **2011:** Western Finance Association Meeting, Santa Fe – *Dark Pool Trading Strategies* (with S. Buti and I.M. Werner).  
 European Finance Association Meeting, Stockholm – *Dark Pool Trading Strategies* (with S. Buti and I.M. Werner).  
 7th Annual Market Microstructure Central Bank Workshop, Stavanger – *Dark Pool Trading Strategies* (with S. Buti and I.M. Werner).  
 European Financial Management Association Meeting, Braga – *Tick Size Regulation and Sub-Penny Trading* (with S. Buti, Y. Wen and I.M. Werner).  
 Financial Management Association, Denver – *Tick Size Regulation and Sub-Penny Trading* (with S. Buti, Y. Wen and I.M. Werner).  
 SGF Annual Conference, Zurich – *Should Markets Impose a Minimum Trade Unit?* (with P. Perotti and R. Fredella).
- **2010:** IIROC DeGroot Conference on Market Structure and Market Integrity, Toronto – *Dark Pool Trading Strategies* (with S. Buti and I.M. Werner).

Northern Finance Association Meeting, Winnipeg – *Dark Pool Trading Strategies* (with S. Buti and I.M. Werner).

Forecasting Financial Markets Conference, Hannover – *Should Markets Impose a Minimum Trade Unit?* (with P. Perotti and R. Fredella).

AFFI-Eurofidai International Paris Finance Meeting – *Should Markets Impose a Minimum Trade Unit?* (with P. Perotti and R. Fredella).

Early Career Women in Finance Conference – *Dark Pool Trading Strategies* (with S. Buti and I.M. Werner).

- **2009:** American Finance Association Meeting – *Undisclosed Orders and Optimal Submission Strategies in a Limit Order Market* (with S. Buti).

FBF/IDEI-R Conference on Investment Banking and Financial Markets, Toulouse – *Undisclosed Orders and Optimal Submission Strategies in a Limit Order Market* (with S. Buti).

- **2008:** European Finance Association Meeting, Athens – *Undisclosed Orders and Optimal Submission Strategies in a Limit Order Market* (with S. Buti).

Northern Finance Association Meeting – *Undisclosed Orders and Optimal Submission Strategies in a Limit Order Market* (with S. Buti).

Central Bank Workshop on the Microstructure of Financial Markets, Hong Kong – *Undisclosed Orders and Optimal Submission Strategies in a Limit Order Market* (with S. Buti).

- **2006:** Central Bank Workshop on the Microstructure of Financial Markets, Ottawa – *The Impact of a Closing Call Auction on Market Quality and Trading Strategies* (with E. Kandel and L. Bosetti).