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## Davide Erminio Pirino, PhD.

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- CITIZENSHIP**     Italian.
- CURRENT POSITION**     From March 1st, 2024 to today. Full Professor, Department of Economics and Finance, University of Rome “Tor Vergata”.
- PREVIOUS POSITIONS**     From June 1st, 2019 to February 29, 2024. Associate Professor, Department of Economics and Finance, University of Rome “Tor Vergata”.
- From June 2016 to May 2019. Senior Assistant Professor, Department of Economics and Finance, University of Rome “Tor Vergata”.
- From September 2015 to May 2016. Junior Assistant Professor, Scuola Normale Superiore, Pisa.  
Position financed by the Italian Ministry of University and Research under the project “A New Measure of Liquidity”, for which I was the Principal Investigator, within the “Scientific Independence of Young Researchers” (SIR, 2014) scheme.
- From October 2013 to September 2015. Post-Doctoral Researcher, Scuola Normale Superiore, Pisa.
- From March 2009 to March 2013. Post-Doctoral Researcher, Laboratory of Economics and Management, Scuola Superiore Sant’Anna, Pisa.
- EDUCATION**     From January 2006 to March 2009. PhD in Physics, Galileo Galilei School of Graduate Studies, University of Pisa. Final dissertation: “Theoretical and empirical essays on the dynamics of financial and energy markets”. Advisor: Prof. Roberto Renò.
- From October 2002 to March 2005. M.S., Physics, University of Pisa. *Magna cum Laude.*
- From October 1999 to October 2002. B.S., Physics, University of Pisa. *Magna cum Laude.*
- PUBLICATIONS**
1. Federico Bandi, Davide Pirino & Roberto Renó. Systematic staleness. **Journal of Econometrics**, 2024, 238(1), pp. 105522.
  2. Davide Pirino, Alessandro Pollastri & Luca Trapin. Testing liquidity: a statistical theory based on asset staleness. **Econometrics and Statistics**, 2022.
  3. Aleksey Kolokolov, Giulia Livieri & Davide Pirino. Statistical inferences for price staleness. **Journal of Econometrics** , 2020, 218(1), pp. 32-81.
  4. Federico M. Bandi, Aleksey Kolokolov, Davide Pirino & Roberto Renó. Zeros. **Management Science** , 2020, 68(8), pp. 3466-3479.
  5. Giuseppe Buccheri, Giulia Livieri, Davide Pirino & Alessandro Pollastri. A closed-form formula characterization of the Epps effect. **Quantitative Finance** , 2020, 20(2), pp. 243-254.
  6. Giuseppe Buccheri, Davide Pirino & Luca Trapin. Managing liquidity with portfolio staleness. **Decisions in Economics and Finance**, 2020.
  7. Luca Cattivelli & Davide Pirino. A Sharp Model of Bid-Ask Spread Forecasts. **International Journal of Forecasting** , 2019, 35(4) pp. 1211-1225.

8. Fulvio Corsi, Fabrizio Lillo, Davide Pirino & Luca Trapin. Measuring the Propagation of Financial Distress with Granger-Causality Tail Risk Networks. **Journal of Financial Stability** , 2018, 38, pp. 18-36.
9. Domenico Di Gangi, Fabrizio Lillo & Davide Pirino. Assessing Systemic Risk Due to Fire Sales Spillover Through Maximum Entropy Network Reconstruction. **Journal of Economic Dynamics and Control** , 2018, 94, pp. 117-141.
10. Federico Bandi, Davide Pirino & Roberto Renó. EXcess Idle Time. **Econometrica** , 2017, 85(6), pp. 1793-1846.
11. Giulio Bottazzi, Davide Pirino & Federico Tamagni. Zipf law and the firm size distribution: a critical discussion of popular estimators. **Journal of Evolutionary Economics** , 2015, 25(3), pp. 585-610.
12. Fabrizio Lillo & Davide Pirino. The Impact of systemic and illiquidity risk on financing with risky collateral. **Journal of Economic Dynamics and Control** , 2015, 50(1), pp. 180-202.
13. Davide Pirino, Jacopo Rigosa, Alice Ledda & Luca Ferretti. Detecting correlations among functional-sequence motifs. **Physical Review E** , 2012, 85(6), pp. 066124-11.
14. Fulvio Corsi, Davide Pirino & Roberto Renó. Threshold bipower variation and the impact of jumps on volatility forecasting. **Journal of Econometrics** , 2010, 159(2), pp. 276-288.
15. Davide Pirino & Roberto Renó. Electricity prices: a non-parametric approach. **International Journal of Theoretical and Applied Finance**, 2010, 13(2), pp. 285-299.
16. Antonio Roma & Davide Pirino. The extraction of natural resources: the role of thermodynamic efficiency. **Ecological Economics** , 2009, 68(10), pp. 2594-2606.
17. Davide Pirino. Jump detection and long-range dependence. **Physica A: Statistical Mechanics and its Applications**, 2009, 388(7), pp. 1150-1156.
18. Paolo Allegrini, Leone Fronzoni and Davide Pirino. The influence of the astrocyte field on neuronal dynamics and synchronization. **Journal of Biological Physics**, 2009, 35(4), pp. 413-423.

#### WORKING PAPERS

- 1) Federico M. Bandi, Aleksey Kolokolov, Davide Pirino & Roberto Renó. Discontinuous trading in continuous-time econometrics. SSRN, 2023. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4351618](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4351618)
- 2) Aleksey Kolokolov, Giulia Livieri & Davide Pirino. Testing for endogeneity of irregular sampling schemes. SSRN, 2022. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4184342](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4184342)
- 3) Gian Piero Aielli and Davide Pirino. Funding liquidity and market liquidity: a structural estimation framework for high-frequency data. SSRN, 2023. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4643568](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4643568)

#### BIBLIOMETRICS (SCOPUS)

Hirsch (H) index 9, total citations 575 (last update: February 2024).

#### GRANTS.

- 1) **PRICE**. On June 13, 2023, the PRICE project (A New Paradigm for High-Frequency Finance), for which I am the Principal Investigator, received funding of €201720 from the Ministry of Education, University, and Research under the PRIN 2022 program. The project involves, in addition to the University of Rome "Tor Vergata" (the Principal Investigator's reference institution), two other local units: the University of Verona (local coordinator: Prof. Roberto Renó) and the University of Padua (local coordinator: Massimiliano Caporin).
- 2) **HiDEA**. In April 2019, the HiDEA (Advanced Econometric Methods for High-Frequency Data) project received a grant of €409940 from the Ministry of Education, University and Research within the PRIN 2017 program. The project involves four units: University of Verona, University of Padua, University of Venice "Cá Foscari" and University of Rome "Tor Vergata". I participate in the project as head of the Tor Vergata unit, which has been assigned €97000 of the total funding.

3) **A New Measure of Liquidity.** I was responsible, as Principal Investigator, for the project “A New Measure of Liquidity”, which was funded by the Ministry of Education, University and Research under the SIR 2014 program (Scientific Independence of Young Researchers). The project concluded on June 23, 2021, with total funding amounting to €302720.

4) **Commonality in Liquidity and Systemic Risk.** In 2014, I was responsible, as Principal Investigator, for the project *Commonality in Liquidity and Systemic Risk*, funded by the Scuola Normale Superiore within the Junior Researchers Projects 2014 program. The total funding was €9500.

SUPERVISION OF  
PHD AND  
POST-DOCTORAL  
STUDENTS.

1) I was the scientific director of the post-doctoral research contract awarded to Dr. Gian Piero Aielli on May 5, 2021, and fully funded by the HiDEA project. The grant, with a two-year duration, was carried out at the CEIS institute of the University of Rome “Tor Vergata”.

2) I was scientific director of the following post-doctoral research contracts: I) Dr. Luca Trapin, research fellow from 2016 to 2018 (2 years) at the Scuola Normale Superiore, Pisa. II) Dr. Alessandro Pollastri, research fellow from 2017 to 2018 (1 year) at the Scuola Normale Superiore, Pisa. III) Dr. Giuseppe Buccheri, research fellow from 2017 to 2019 (2 years) at the Scuola Normale Superiore, Pisa. All contracts have been funded by the project “A new measure of liquidity”.

3) I was scientific director of the following term contracts (italian co.co.co) financed at 100% on the project *A New Measure of Liquidity* and aimed at supporting research: Dr. Aleksey Kolokolov (2017, 3 months), Dr. Aleksey Kolokolov (2019, 4 months), Dr. Giuseppe Buccheri (2019, 1 month), Dr. Demetrio Lacava (2021, 1 month).

4) I was co-supervisor of the doctoral thesis of Dr. Luca Cattivelli entitled “Econometric techniques for forecasting financial time series in discrete time” discussed on October 2019, within the PhD program in *Financial Mathematics* of the Scuola Normale Superiore of Pisa.

PHD THESIS  
COMMISSIONS

I participated to the following PhD commissions. Dr. Marcello Rambaldi, PhD in Financial Mathematics, Scuola Normale Superiore, Pisa (2017). Dr. Andrea Deghi, PhD in Economics, University of Siena, Siena (2017). Dr. Igor Vexin, PhD in Economics, Sant’Anna School of Advanced Studies, Pisa (2017). Dr. Adam Majewski, PhD in Financial Mathematics, Scuola Normale Superiore, Pisa (2015). Dr. Alessandra Caraceni, PhD in Mathematics, Scuola Normale Superiore, Pisa (2015). Dr. Leonardo Robol, PhD in Mathematics, Scuola Normale Superiore, Pisa (2015). Dr. Andrea Bevilacqua, PhD in Mathematics for Industrial Technologies, Scuola Normale Superiore, Pisa (2015). Dr. Gianbiagio Curato PhD in Financial Mathematics, Scuola Normale Superiore, Pisa (2015).

REFEREE  
ACTIVITY

Journal of Econometrics, Journal of Business Economics and Statistics, Journal of the American Statistical Association, Journal of Financial Econometrics, Journal of Applied Econometrics, International Journal of Forecasting, Statistical Methods and Applications, Journal of Banking & Finance, PLoSone, Finance Research Letters, Computational Statistics and Data Analysis, Computational Management Science, Quantitative Finance, Journal of Evolutionary Economics, Journal of Future Markets, Journal of Economic Behavior & Organization, Journal of Financial Stability, Econometrics and Statistics, Journal of Economic Dynamics & Control.

SERVICE

1) During the academic years 2018/2019, 2019/2020, 2020/2021, 2021/2022 and 2023/2024 I have been a member of the teaching staff of the *PhD in Economics and Finance*, Department of Economics and Finance, University of Rome “Tor Vergata”.

2) During the academic years 2017/2018 and 2018/2019, I was a member of the administrative council of the bachelor *Business Administration and Economics*, Faculty of Economics, University of Rome “Tor Vergata”.

VISITING  
PERIODS

1) **Johns Hopkins Carey Business School.** In 2019, I was invited by Prof. Federico Bandi for a research period at the Johns Hopkins Carey Business School in Baltimore, USA. The research period took place from April 1, 2019, to May 30, 2019. Some of the results from this period are now published in the article: Bandi F.M., Kolokolov A., Pirino D., and Renó R., *Zeros*, Management Science, 2020, vol. 68, no. 8, pp. 3466-3479.

2) **London Business School.** From February to June 2008, I visited the London Business School for a research period. The main results of this period are summarized in the paper by Roma A. and Pirino D., *The Extraction*

of Natural Resources: The Role of Thermodynamic Efficiency, *Ecological Economics*, 2009, vol. 68, no. 10, pp. 2594-2606.

CONFERENCE  
TALKS AND  
INVITED  
SEMINARS

-**Sungkyunkwan University**. 15<sup>th</sup> Annual Meeting of the Society for Financial Econometrics (SoFiE), Seoul (South Korea), June 15-18, 2023. - **Lancaster University Management School**. Invited Seminar, Lancaster, June 9, 2023. - **ESSEC Business School**. Invited Seminar, Paris, May 24, 2023. - **King's College London**. 8<sup>th</sup> Annual Conference of the International Association for Applied Econometrics (IAAE), London, June 21-24, 2022. - **Università degli Studi di Cagliari**. Ninth Italian Congress of Econometrics and Empirical Economics, Cagliari, January 21-23, 2021. - **King's College London**. 14<sup>th</sup> International Conference on Computational and Financial Econometrics (CFE 2020), London, December 19-21, 2020. - **Università degli Studi di Napoli Parthenope**. XXI Workshop on Quantitative Finance, Napoli, January 29-31, 2020. - **Università della Svizzera Italiana and the Swiss Finance Institute**. 11<sup>th</sup> Annual Meeting of the Society for Financial Econometrics (SoFiE), Lugano, June 12-14, 2018. - **Università degli Studi di Cagliari**. 41<sup>st</sup> Annual Meeting of the Association for Mathematics Applied to Social and Economic Sciences, September 14-16, 2017. - **NYU Stern, New York, USA**. 10<sup>th</sup> Annual SOFIE Conference, June 21-23, 2017. - **Università degli Studi di Milano-Bicocca**. XVIII Workshop on Quantitative Finance, January 25-27, 2017. - **Higher Technical School of Engineering, University of Seville, Spain**. 9<sup>th</sup> International Conference of the ERCIM WG on Computational and Methodological Statistics, December 9-11, 2016. - **The 11<sup>th</sup> World Congress of the Econometric Society**. Montréal, Canada, August 17-21, 2015. - **Università degli Studi di Parma**. XVI Workshop on Quantitative Finance, January 29-30, 2015. - **Group Risk Methodologies & Architecture, UniCredit Tower, Milano**. Invited Seminar, January 2015. - **Group Risk Methodologies & Architecture, UniCredit Tower, Milano**. Invited Seminar, January 2014. - **Università degli Studi di Bologna, Campus di Rimini**. XIV Workshop on Quantitative Finance, January 23-24, 2013. - **Università degli Studi di Siena**. Invited Seminar, January 2013. - **University of Pantheon-Assas, Paris II**. W.E.H.I.A. 2012, 17-th Annual Workshop on Economic Heterogeneous Interacting Agents, June 21-23, 2012. - **UNU-MERIT & School of Economics and Business, Maastricht University**. DIME Final conference, April 6-8, 2011. - **Trinity College Dublin**. 4<sup>th</sup> INFINITI Conference on International Finance, June 12-13, 2006.

CONFERENCE  
ORGANIZATIONS

I was a member of the organizing committee of the following congresses:

- 1) XXIII Quantitative Finance Workshop, 31st March - 1st April, 2022, Department of Economics and Finance, University of Rome "Tor Vergata".
- 2) Quantitative Finance at Work, II<sup>nd</sup> Edition, May 3-4, 2018, Department of Economics and Finance, University of Rome "Tor Vergata".
- 3) XIX Quantitative Finance Workshop, January 24-26, 2018, Università degli Studi Roma Tre.
- 4) Quantitative Finance at Work, I<sup>st</sup> Edition, April 28, 2017, Department of Economics and Finance, University of Rome "Tor Vergata".
- 5) XVII Quantitative Finance Workshop, January 28-29, 2016, Scuola Normale Superiore, Pisa.

PHD TEACHING

At the doctoral program *PhD in Economics and Finance*, Department of Economics and Finance, University of Rome "Tor Vergata":

- ★ October-November 2018, 2019, 2020, 2021, 2022. "Measure Theory and Stochastic Processes", 18 hours.

At the doctoral program *PhD in Financial Mathematics*, Scuola Normale Superiore, Pisa:

- ★ March-April 2016. "Mathematical Finance", 25 hours.
- ★ May 2016. "Computational Finance", 10 hours.

At the *International Doctoral Program in Economics*, Scuola Superiore Sant'Anna, Pisa:

- ★ January 2015. "Introduction to stochastic processes", 15 hours.
- ★ March 2013. "Tutorials on stochastic processes", 10 hours.

- ★ October 2011 and 2012. “Calculus and tutorials on differential equations”, 30 hours.
- ★ October 2010 and 2011. “Calculus and tutorials on differential equations”, 20 hours.
- ★ March 2010 and 2011. “Tutorials on Dynamic Optimization”, 10 hours.
- ★ October 2009. “Calculus and tutorials on differential equations”, 20 hours.

OTHER  
TEACHING  
ACTIVITIES

At the University of Rome “Tor Vergata”:

- ★ Spring semester of 2024. “Automated Decision Making in Business and Economics” (advanced Excel), Master of Science in “European Economy and Business Law”.
- ★ October-December 2020, 2021, 2022 and 2023. “Coding and data analysis for finance”, Master of Science in “Finance and Banking”.
- ★ September-December 2023. “Matematica Generale” (calculus), Bachelor of Science in “Economia e Management”.
- ★ November-December 2020 & November-December 2019. “Statistical Research Seminar” (Data Analytics with Excel Seminar), Master of Science in “European Economy and Business Law”.
- ★ March-May 2020. “Time Series and Econometrics”, Master of Science in “Finance and Banking”.
- ★ September-December 2016, 2017, 2018, 2019 and 2022. “Mathematics”, Bachelor of Science in “Business Administration and Economics”.

At the Scuola Normale Superiore, Pisa.

- ★ March-April 2016. “Corso integrativo di analisi matematica”, course for undergraduate college students, 30 hours.
- ★ October 2015. “Corso integrativo di analisi matematica”, course for undergraduate college students, 10 ore.

At the Scuola Superiore Sant’Anna, Pisa.

- ★ October 2013. Tutorials on calculus, course for undergraduate college students, 10 hours.
- ★ June 2012. Tutorials on calculus, course for undergraduate college students, 10 hours.
- ★ December 2010 and 2011. Tutorials on calculus and differential equations, course for undergraduate college students, 10 hours.
- ★ March 2010 and 2011. Tutorials on linear algebra, course for undergraduate college students, 10 hours.

TUTORING

I was the supervisor of the following undergraduate theses:

- ★ 31/03/2021. Dr. Roberta Maria Segatore, *Estimation of a structural model for stale prices*, Master of Science in “Finance and Banking”, University of Rome “Tor Vergata”.
- ★ 31/03/2021. Dr. Gaetano Cipriani, *Volatility estimation in presence of microstructure noise*, Master of Science in “Finance and Banking”, University of Rome “Tor Vergata”.
- ★ 14/10/2020. Dr. Antonio Colasanto, *Monte-Carlo assessment of excess staleness estimator*, Master of Science in “Finance and Banking”, University of Rome “Tor Vergata”.
- ★ 14/10/2020. Dr. Veronica Lupi, *Maximum Likelihood Estimation of diffusion models for financial applications*, Master of Science in “Finance and Banking”, University of Rome “Tor Vergata”.
- ★ 21/07/2020. Dr. Giulia Proietti, *Volatility Estimation and Forecasting in the Presence of Jumps*, Bachelor of Science in “Business Economics and Administration”, University of Rome “Tor Vergata”.

- ★ 26/10/2018. Dr. Simone Fortuna, *Study on Rough Volatility*, Master of Science in “Finance and Banking”, University of Rome “Tor Vergata”.
- ★ 25/10/2017. Dr. Cristina Gentile, *Measures of Asymmetric Information in Financial Markets*, Master of Science in “Finance and Banking”, University of Rome “Tor Vergata”.