Luca Mingarelli, PhD

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My website and professional page

Research interests

– Empirical banking and financial institutions
– Interconnectedness and systemic risk transmission

Policy Experience

Actively collaborated in cross-divisional and cross-institution projects: most notably with the *Stress Test Modelling* division within the *System Wide Stress Test* group ; with the ESRB as part of a ESRB-WS3 *Top-down assessment of a mass bond downgrade scenario* project; with the SRB on a *Optimised bail-in strategies* project; as part of the ATC-FSC Climate Risk project team. Experience in leading and managing small teams.

Employment

European Central Bank: Financial Stability Expert, 2020-Present
European Central Bank: PhD Trainee, 2019-2020
Imperial College London: Research Fellow, 2018

Consultancy

CVING, JinnCapital, Outsmart Insight, BAE Systems, ABACE Group.

Education

Imperial College London
Ph.D., Mathematics, 2014-2018.
MRes, Mathematical Sciences, 2013-2014.
King's College London
MSc, Theoretical Physics, 2012-2013 .
Universitá di Bologna
BSc, Physics, 2009-2012 (*cum laude).*

Teaching

DG-MF, European Central Bank
(2019-present) Taught courses on micro-structural and network models of financial contagion, python, git, big data and high performance computing.
Department of Mathematics, Imperial College London
(2014-2018) Graduate teaching assistant in: Probability and Statistics, Statistical Modelling, Time Series, Analysis, Mathematical Methods I and II, Differential Equations, Mechanics, Python, Matlab, Maple, Computing in C++, Mathematics and Physics courses for the Chemistry, Physics, and Aerospace departments.

Technical Skills

Big Data, Python, R, C++, UNIX, Matlab, Mathematica, Maple, Git, SQL, Hadoop, PySpark, Q/Kdb+ (*basic*)

Software dev.

CryptPandas, PyOracleClient, mtalg, Connectors (ECB internal), ecbtools (ECB internal)

Big Data Experience

Experience with the following datasets: AnaCredit, SHS-S, SHS-G, RIAD, ROSSI, GLEIF, CSDB, Trade data, COREP, FINREP, iBACH, Orbis, Moody's Credit Edge, Urgentem, Moody's 427

Current Research and Working Papers

Financial contagion and resolution strategies, with P. Bochmann, L. Kuitunen, J. Metzler, M. Montagna, and M. Spaeth;

What's a zombie: identification and relevance of non-viable firms, with B. Ravanetti, T. Shakir, and J. Wendelborn;

Contagion from market impact: a European perspective, with G. Fukker, M. Kaijser, and M. Sydow;

Policy Publications

Euro Area banks' sensitivity to changes in carbon price, with M. Belloni, and F. Kuik; *ECB Working Paper Series, No 2654*, 2022

Shock amplification in an interconnected financial system of banks and investment funds, with M. Sydow, A. Schilte, G. Covi, M. Deipenbrock, L. Del Vecchio, P. Fiedor, G. Fukker, M. Gehrend, R. Gourdel, A. Grassi, B. Hilberg, M. Kaijser, G. Kaoudis, M. Montagna, T. Piquard, D. Salakhova, N. Tente, *ECB Working Paper Series, No 2581*, 2021;

Climate-related risk and financial stability, with ECB/ESRB Project Team on climate risk monitoring, *ECB Report* and *ESRB Report*, 2021;

Corporate zombification: post-pandemic risks in the euro area, with T. Helmersson, B. Mosk, A. Pietsch, B. Ravanetti, T. Shakir, and J. Wendelborn, *ECB Financial Stability Review*, 2021;

EA system-wide scenario analysis of large scale corporate bond downgrades, with A. Bouveret, C. Christophersen, G. Coppins, M. Ferrari, C. Fricke, C. Graciani, S. Hack, P. Jakubik, M. Kaijser, M. Ludwig, A. Monzon, S. Pasqualini, D. Pérez, E. Rancoita, E. Schaanning, M. Sydow, A. Vinci, *ESRB Technical Notes*, 2020;

Euro area banks' sensitivity to corporate decarbonisation, with M. Belloni, R.M. Porcel, and P. Radulova, *ECB Financial Stability Review*, 2020;

Assessing the systemic footprint of euro area banks, with M. Adam, P. Bochmann, M. Grodzicki, M. Montagna, C. Rodriguez d'Acri, and M. Spaggiari, *ECB Financial Stability Review*, 2019;

Journal Publications

Exotic vortex lattices in binary repulsive superfluids, with Ryan Barnett, *Physical Review Letters*, 2019, (*arXiv*);

Vortex lattices in binary mixtures of repulsive superfluids, with Eric Keaveny, Ryan Barnett, *Physical Review A*, 2018, (*arXiv*);

Simulating infinite vortex lattices in superfluids, with Eric Keaveny, Ryan Barnett, *IOP-Journal of Physics: Condensed Matter*, 2016, (*arXiv*); featured on JPhys+;

Fellowships Awards and other experiences

Member of Mathematics Research committee (Imperial College, 2014-2017)
Member of Teaching Strategy committee (Imperial College, 2013-2017)
Representative of Mathematics PhD students (Imperial College, 2014-2017)
APS Travel grant (New Orleans, 2017)
HAIRS Grant for MBP-SQS Conference (Cape Town, 2016)
Global Fellow at Massachusetts Institute of Technology (Boston, 2015)
International School of Physics Grant (Varenna, 2014)
King's Leadership Award (2013)

Conferences and Seminars

- Systemic Risk and Stress Testing — University of Chicago, 2022
- Climate related risks and financial stability (Invited Lecturer) — University of Torino, Torino 2022
- Workshop on Non-Viable Zombie Companies (Panelist) — Joint Vienna Institute, Vienna 2021
- Conference on Systemic Risk Analytics — Bank of Finland and European Systemic Risk Board joint conference, Helsinki, 2021
- Climate Risk Academy — European University Institute, Florence, 2021
- Random Matrix Theory and Networks — Max Planck Institute, Dresden, 2021
- Economics & Complex Systems Journal Club (Invited speaker) — École Polytechnique, Paris, 2020
- Joint ECB-Oxford Workshop on Financial Interconnectedness (Organiser) — Frankfurt am Main 2020
- INET Complexity Economics Seminar (Invited speaker) — Oxford 2019
- *APS March Meeting* — New Orleans 2017
- *Joint Quantum Center, Multicomponent Atomic Condensates and Rotational Dynamics* — Newcastle 2016
- *Theory of Condensed Matter Group Annual Meeting* — Warwick 2016
- *Many-body physics in Synthetic Quantum Systems* — Stellenbosch 2016
- *Quantum Matter at Ultralow Temperature* — Varenna 2014

References

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