

## EDUCATION

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London School of Economics, PhD Economics, 2018-present  
London School of Economics, MRes Economics *with Distinction*, 2016-2018  
University College London, MSc Economics *with Distinction*, 2013-2014  
University of Cambridge, MA Economics *First Class*, 2010-2013

## PROFESSIONAL

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Academic Visitor, Bank of England, 2016-present  
Economist, Bank of England, 2014-2016

## TEACHING EXPERIENCE

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Firms & Markets (postgraduate), for Kristóf Madarász & Rocco Macchiavello, LSE, 2020-21  
Microeconomics (undergraduate), for Margaret Bray & Eric Eyster, LSE, 2017-18

## TEACHING & RESEARCH FIELDS

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Financial economics, industrial organisation

## HONOURS & SCHOLARSHIPS

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Paul Woolley Centre Scholarship, 2020-2022  
Economic and Social Research Council PhD Scholarship, 2016-2020  
Prize for Best Overall Performance, UCL MSc Economics, 2013-2014  
Harcourt Prize & John B. Lansdell Prize, Trinity Hall, Cambridge, 2011-2013

## COMPLETED PAPERS

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**A Structural Model of Liquidity in Over-the-Counter Markets (Job Market Paper)**  
with Patrick Coen.

We study how firm heterogeneity determines liquidity in over-the-counter markets. Using a rich dataset on trading in the secondary market for sterling corporate bonds, we build and estimate a flexible model of search and trading in which firms have heterogeneous search costs. We show that the 8% most active traders supply as much liquidity as the remaining 92%. Liquidity is thus vulnerable to shocks to these firms: if the 4% most active traders stop trading, liquidity falls by over 60%. Bank capital regulation reduces the willingness of these active traders to hold assets and thus reduces liquidity. However, trader search, holdings and intermediation respond endogenously to reduce the welfare costs of regulation by 30%. These costs are greater in a stress, when these margins of adjustment are constrained. The introduction of trading platforms, which homogenise the ability of traders to trade frequently, improves aggregate welfare but harms the most active traders who currently profit from supplying liquidity.

**A Structural Model of Interbank Network Formation and Contagion**  
with Patrick Coen.

The interbank network, in which banks compete with each other to supply and demand financial products, creates surplus but may also result in risk propagation. We examine this trade-off by setting out a model in which banks form interbank network links endogenously, taking into account the effect of links on default risk. We estimate this model based on novel, granular data on aggregate exposures between banks. We find that the decentralised interbank market is not efficient, primarily because banks do not fully internalise a network externality

in which their interbank links affect the default risk of other banks. A social planner would be able to increase surplus on the interbank market by 13% without increasing mean bank default risk or decrease mean bank default risk by 4% without decreasing interbank surplus. We propose two novel regulatory interventions (caps on aggregate exposures and pairwise capital requirements) that result in efficiency gains.

### **Price Discrimination and Mortgage Choice**

with Anil Kashyap & May Rostom.

We characterise the large number of mortgage offers for which people qualify. Almost no one picks the cheapest option, nonetheless the one selected is not usually much more expensive. A few borrowers make very expensive choices. These big mistakes are most common when the menu they face has many expensive options, and are most likely for high loan-to-value and loan-to-income borrowers. Young people and first-time buyers are more mistake-prone. The dispersion in the mortgage menu is consistent with banks attempting to price discriminate for some borrowers who might pick poorly while competing for others who might shop more effectively.

### **Strategic Fire Sales with Solvency and Liquidity Risk**

with Caterina Lepore & Eric Schaanning.

We build a framework to study how solvency and liquidity risks can drive bank fire sales. Banks choose which assets to sell in order to minimise liquidation losses, accounting for other banks' sales. The optimal liquidation strategies trade off losses from an asset sale's price impact against its regulatory weights. The framework gives rise to a game with both strategic complementarity, in terms of banks' aggregate sales, and substitutability, in terms of which assets banks sell. Calibrating the model to the UK banking system we show which shocks, which assets and which constraints matter for fire sales. We find that funding shocks have the potential to generate larger losses than solvency shocks, whilst accounting for the interaction between solvency and liquidity amplifies losses further. Thus models focusing exclusively on solvency risk may significantly underestimate the extent of contagion via fire sales.

## **PRE-PHD PUBLICATIONS**

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"The Determinants of UK Credit Union Failure", with Bill Francis & May Rostom, *International Journal of Central Banking*, Vol. 15(4), 2019, pp 207-240.

"Simulating Stress Across the Financial System: the Resilience of Corporate Bond Markets and the Role of Investment Funds", with Yuliya Baranova, Pippa Lowe, Joe Noss & Laura Silvestri, *Bank of England Financial Stability Paper*, 2017.

## **PRESENTATIONS**

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2022. Bank of England, Bank of Canada, Bristol, CEMFI, Duke Fuqua, EIEF, Federal Reserve Board, HEC Paris, Imperial, Tilburg, UNC Kenan-Flagler.

2021. Bank of England, RES Annual Conference, SaMMF OTC Market Workshop\*.

2020. ASSA annual meeting\*, Bank of England, Imperial\*, New York Fed\*, Princeton\*, Stanford\*, Toulouse School of Economics\*, Universidad Pompeu Fabra\*, Queen Mary\*.

2019. Bank of England, RES Junior Symposium\*, EARIE\*, Econometric Society Winter Meeting\*, EBA Research Workshop on the future of stress tests in the banking sector\*, Third Meeting of IMF network on modelling systemic macro-financial risks\*.

2018. Bank of England & Norges Bank Fire sale modelling workshop\*, Bank of England, Columbia/The Clearing House Conference on Liquidity Regulation, Oxford-Indiana Macro Policy Conference, Federal Reserve Stress Testing Conference\*, RiskLab/BoF/ESRB Conference on Systemic Risk Analytics\*.

\* indicates presentation by coauthor.

## REFERENCES

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