

Tina Koziol

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90 Constitution Street, Cape Town 7095

EDUCATION

University of Cape Town

PhD in Economics (thesis based);

Thesis: Heterogeneous agent models to determine spillover effects in the context of Quantitative Easing

Topics: Computational economics, econometrics, financial economics & health economics, systemic risk, agent-based modeling

Cape Town, South Africa

March 2016 - March 2020

Friedrich-Schiller University

MCom Business Administration & Finance; Grade 1.4 (approx. GPA: 3.7/4.0)

Jena, Germany

Oct 2007 - Oct 2013

SKILLS

- **Programming:** Python, R, LaTeX, MS Office, SQL, High Performance Computing
- **Libraries:** Pandas, Scikit-Learn, Tensorflow, Keras, Numpy, Jupyter, statsmodels

TEACHING

UCT, School of Economics, Lecturer Advanced Econometrics

ECO5046F Master's and PhD level

Cape Town, South Africa

February 2020 - July 2020

UCT, School of Economics, Introductory Stata Course

Short Course

March 2020

UCT, School of Economics, Python for Economists

Short Course

November 2019

UCT, School of Economics, Lecturer Quantitative methods in Economics

ECO3021S Undergraduate level (BSc degree)

September - November 2019

EXPERIENCE

Bank of England

PhD Intern

London, United Kingdom

July 2017 - September 2017

- **Financial Stability Department:** System-wide stress-testing, contagion modeling, data handling

AIFMRM & School of Economics, University of Cape Town, Research Fellow

PhD Fellow

Cape Town, South Africa

April 2016 - current

- **Contagion modelling and teaching:** modelling financial spillovers and stress-testing, TA for Financial Econometrics in Stata, python and R (Master's level), Creating MOOC content 'Financial Regulation in Emerging Markets and the Rise of Fintech Companies'

Econometrix, Research Consultancy

Economist

Johannesburg, South Africa

April 2014 - March 2016

- **Macro and sectoral research on SA economy:** Economic report writing, market demand analysis, forecasting, project management

WORKING PAPERS

Davids, du Rand, Georg, Koziol & Schasfoort, 2020 (Working paper): SABCoM - A Spatial Agent-Based COVID-19 Model

We develop a Spatial Agent-Based Covid-19 Model (SABCoM). Besides being open-source, the model contributes to the Covid-19 modelling literature by distinguishing between the district level and city level. The advantage of this approach is that we can study the effect of heterogeneity between districts. This is important in an emerging market context since there are often informal and formal districts that differ both in density and the likely effectiveness of physical distancing policies.

Health Economics

Koziol & Riedler, 2019 (Working paper): Euro Area Quantitative Easing in a Portfolio Balance Model with Heterogeneous Agents and Assets.

We present a portfolio model to study the effects of Quantitative Easing on international financial asset returns through the portfolio balance channel. Our two-country model quantifies the effect of a domestic central bank's asset purchase program on the domestic and foreign term structure of the yield curve, equity returns and the exchange rate.

International capital spillover

Koziol, 2018 (SARB Working paper): Fire-sale externalities in the South African banking system.

This paper focuses on the asset fire-sale contagion channel and calibrates a fire-sale model to the South African banking system. I rank individual banks according to their contribution to systemic risk and show the importance of cash liquidity buffers in reducing risk to fire-sale occurrences. Last, but not least, the paper finds a critical threshold price impact parameter, which, if exceeded, makes the banking system highly unstable.

Contagion in Financial Networks

- Research financed by the SARB's financial stability research grant

TALK & ACHIEVEMENTS

- Presented at INET/Oxford - UCT Workshop on Agent-Based Modelling for Systemic Stress Testing, Oxford, United Kingdom 8-10 March 2017
- Presented at Financial Stability Workshop of South African Reserve Bank, Pretoria, South Africa, 30th October 2017
- Presented at Closing Conference of the Project Quantitative Easing and Financial Stability funded, Frankfurt am Main, Germany, 1 April 2019
- Scholarship granted by the German National Merit Foundation Studienstiftung des deutschen Volkes, 2009 - 2013