CHRISTIAN ROERIG

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EDUCATION

University of Cambridge *October 2017 - Present*
PhD in Economics
Advisors: Dr. Pontus Rendahl, Dr. Tiago Cavalcanti

Karlsruhe Institute of Technology *October 2014 - June 2017*
M.Sc. in Engineering and Management   Overall Grade: 1.2

Universidad Carlos III, Madrid *September 2015 - June 2016*
M.Sc. in Economics   Overall Grade: 9.56/10

Technichal University Darmstadt *October 2011 - October 2014*
B.Sc. in Mechanical Engineering and Management   Overall Grade: 1.69

RESEARCH INTERESTS

Macroeconomics, Applied Econometrics, Economic Development

WORK IN PROGRESS

Monetary policy with oligopolistic competition, firm heterogeneity and entry
The standard textbook New Keynesian model relies on counter-cyclical profits for monetary policy to have an effect as recently pointed out by Broer et al. (2018). This paper first tests this hypothesis by adding oligopolistic competition and static free entry to an otherwise standard NK model. Including search and matching frictions to the labour market, breaks the result of money neutrality despite free entry of firms. Beyond that, the model is further augmented to accommodate firm heterogeneity and dynamic entry to investigate how the market structure affects the propagation of monetary policy shocks. The findings are threefold: First, through the channel of oligopolistic competition, heterogeneity in firms' productivity leads to pro-cyclical profits for lower levels of wage rigidity compared to the homogeneous case. Second, firm heterogeneity increases the response in aggregate output which is in line with Mongey (2017). Third, dynamic entry is further enhancing this effect, yet the strengthening of competition has a negative impact on firms' profits. Local projections using Compustat firm-level data and Romer and Romer (2004) monetary policy shocks support the predictions of the theoretical model.

Savings shocks and business cycle fluctuations, *joint with Pontus Rendahl*
A a common modeling tool – and a popular narrative – used to explain the financial crisis of 2008-2010 is a sudden increase in the desire to save. Such "marginal propensity to save" (MPS) shocks can be triggered by, for instance, a rise in uncertainty surrounding the economic climate, and depress interest rates, inflation, and generally cause an economic contraction. This paper uses the long-run properties arising from MPS shocks in both exogenous- and endogenous growth models with sticky prices in order to identify their causal effect on output. We find that time series data from the United States is strongly supportive of the notion that MPS shocks indeed have a causal, and contractionary, effect on economic activity, lending support to the most common approach of studying the financial crisis.

Financial factors, firm size, and growth, *joint with Miguel Ferreira and Timo Haber*
Using a unique dataset covering the universe of Portuguese firms and their credit situation we revisit the relationship of financial frictions and firm characteristics. First, we show that constrained firms are indeed more sensitive to the business cycle. This fact is robust across a number of specifications, validating financial factors as an important propagation mechanism. Second, the effects of firm size and financial constraints on firm cyclicality are largely orthogonal to each other, confirming previous results by Crouzet and Mehrotra (2017). Third, we document that firm growth is a critical variable in explaining financial conditions. Including ex-ante firm potential in the standard heterogeneous firms model can account for a financial accelerator mechanism and is consistent with these empirical facts.

Endogenous Segregation, *joint with Tiago Cavalcanti and Dilip Mookherjee*
The common view of effects of school integration (e.g. via legal or financing reforms) on education and inequality is that they have redistributive effects. However, the previous literature abstracts from the fact that housing prices might be affected by the reform. This paper extends the model by Mookherjee, Ray and Napel (2010) to incorporate the choice of neighbourhoods by households and endogenous housing prices. We show that school integration can give rise to changes in housing prices which offset the direct effects of the reform. Under specific assumptions, the reform can result in a Pareto inferior outcome. With a fixed supply of housing in each neighbourhood, house prices in rich (resp. poor) neighbourhoods will fall (resp. rise) following a move towards school integration, which results in a complete offset of the direct effects on education cost.

The Birth of a Multinational: Innovation and Foreign Acquisitions, *joint with Jim Goldman, Maria Guadalupe and Veronica Rappoport*
This paper studies firms' joint decision to innovate and become a multinational. Using a panel data of Spanish firms with detailed information on innovation and international activities we show that innovation is a lumpy and disruptive process: it occurs sporadically and is followed by an immediate drop in productivity. We incorporate this technological feature into a continuous-time stochastic model and derive novel empirical predictions: (1) Firms that eventually become multinationals innovate more often than those that remain domestic. (2) The headquarter unit is more likely to innovate after becoming a multinational. (3) Although in the cross-section multinational firms are more productive than domestic firms, productivity in the headquarter drops immediately after becoming a multinational. These predictions are confirmed empirically and highlight how the option of investing in foreign markets and the actual foreign investment both stimulate domestic innovation.

TEACHING EXPERIENCE

2019	TA for Advanced Econometric Methods (graduate), Faculty of Economics, University of Cambridge, Satisfaction rate: 96%
	TA for Applied Macroeconomics (graduate), Faculty of Economics, University of Cambridge, Satisfaction rate: 94%
	Supervisor for Macro I (undergraduate), Downing and Jesus College, University of Cambridge
2018	TA for Tools for Macroeconomists: Advanced Tools (graduate), LSE summer course
	Supervisor for Macro I (undergraduate), Downing and Jesus College, University of Cambridge

SUMMER SCHOOLS

Barcelona CREI Macroeconomics Summer School, Courses in "Economic Growth and Inequality" and "Recent Developments in Forecasting", 2016

Spring Course - Nonparametric and Semiparametric Econometrics - Theory and Applications with Prof. Jeff Racine, University of Coimbra, 2016

WORK EXPERIENCE

QuantCo, Cologne   06/2019-09/2019
Data Science Intern

Developing data-driven economic pricing models and strategies for a globally leading insurance company.

Frontier Economics Ltd., Cologne   06/2017-08/2017
Summer Analyst

Supporting the competition, energy and telecom practice with benchmarking studies and loss estimations due to antitrust using STATA.

Strategy&, part of the PWC network, Munich   09/2016-10/2016
Summer Associate

Optimizing the product portfolio for a globally leading chemical company. Mainly involved into improving production operations for selected pilot plants and identifying pricing potential. Admission to talent program "Strategy& Talent".

WifOR GmbH, Darmstadt   05/2014-08/2015
Junior Researcher

Conducting research in the field of Labor Market Economics. Presentation of dynamic factor model for European labor markets at DIW Macroeconometric Workshop 2014 in Berlin.

AWARDS

Prize for Best Graduate Teaching Assistant by the Faculty of Economics, 2018-2019

Vice Chancellor's & INET full scholarship, University of Cambridge, 2017-2020

Extraordinary Prize for the best master degree, Universidad Carlos III de Madrid, 2016

Scholarship by the UniCredit & Universities Summer School Program, 2016

Partial tuition waiver, Universidad Carlos III de Madrid, 2015-2016

PROMOS Scholarship of the German Academic Exchange Service (DAAD), 2013

OTHER INFORMATION

Languages	English (fluent), German (native), Spanish (intermediate), French (basic)
Programming	Matlab, Python, R, STATA, Julia, Latex, MS Office