

# FILIP ROZSYPAL

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## CONTACT INFORMATION

Research Unit, Danmarks Nationalbank  
Langelinie Allé 47  
2100 Copenhagen, Denmark

*Phone:* (0045) 3363 6617  
*E-mail:* firo@nationalbanken.dk  
*Web:* filip-rozsypal.github.io

## CITIZENSHIP

Czech Republic

## EMPLOYMENT

**Danmarks Nationalbank**, Research Department **since Aug 2017**  
**London School of Economics**, Postdoctoral researcher **May 2015 - Jul 2017**

## EDUCATION

**University of Cambridge** **Feb 2016**  
• PhD Economics  
supervision: Chryssi Giannitsarou, Vasco Carvalho  
**London School of Economics** **Jun 2009**  
• MSc Economics (Research track) **Jun 2009**  
**Charles University**, Prague, Czech Republic  
• MSc Economics **Jun 2008**  
• BSc Mathematics **Sep 2006**  
• BSc Economics **Jun 2005**

## ADDITIONAL EDUCATION

Student visits  
• **Stanford University**, Visiting PhD Student **Sep 2012 - May 2013**  
• **Université Paris I Sorbonne**, Erasmus visiting student **Sep 2006 - Feb 2007**  
**Short courses**  
• Continuous Time Heterogeneous Agent models (Villaverde, Nuno) **Sep 2020**  
• Accelerating and Parallelizing MATLAB Code **Jun 2020**  
• Initiative for Computational Economics (Kenneth Judd, Zurich) **Jan 2014**  
• Economics and Econometrics of Forecasting (James Stock, RES) **Apr 2012**  
• Bayesian Methods (Gary Koop, Queen Mary) **Dec 2011**  
• DSGE modelling, Heterogeneous agents (Wouter den Haan, LSE) **Aug 2011**  
• Primer in DSGE Models (Fernandez-Villaverde, CEMFI) **Aug 2008**

## RESEARCH EXPERIENCE

**London School of Economics**  
*Research Assistant* **Jan 2009 - Jun 2010**  
• worked for Dr Henrik Jacobsen Kleven and Dr Radha Iyengar  
data collection and analysis in Stata, programming a database in MS Access  
**Czech National Bank**, Prague, Czech Republic  
*External Researcher* **Sep 2008 - Oct 2010**  
• Researcher on project “Money and Prices: Policy Perspectives for Selected New EU Members”  
created and implemented a co-integrated model used for forecast evaluation

- Monetary Policy and Fiscal Analyses Division:  
conducted independent research, prepared empirical analyses, developed programming routines for monetary modelling, participated on reports published both internally and externally

## WORKING PAPERS

- **What can old firms tell us about the effect of age on firm size** (joint with Svend Grennman Andersen), *R&R at Scandinavian Journal of Economics*  
If old firms are on average much larger than young firms, does it mean that firms get better with age? Using Danish administrative data, we construct age profiles of firm size (measured by the number of workers, turnover and value added) for ages 0-60. We find that the positive effect of aging stops around the age of 10 after which firms start to deteriorate. The positive correlation of size and age is caused by a strong selection effect where firms from the bottom of the distribution are more likely to exit.
- **Overpersistence bias in individual income expectations and its aggregate implications** (joint with Kathrin Schlafmann), *conditionally accepted at AEJ:Macro*  
Using micro level data, we document a systematic, income-related component in household income forecast errors. We show that these errors can be formalized by a modest deviation from rational expectations, where agents overestimate the persistence of their income process but otherwise form expectations in a perfectly rational and forward-looking manner. We then investigate the implications of these distortions in expectations on consumption and saving behavior and find two effects. First, low income households with this bias are too pessimistic and hence choose to borrow less than their fully rational counterparts even though their borrowing constraint is not binding. This allows a quantitative model to match the joint distribution of liquid assets and income. Second, the bias alters the distribution of marginal propensities to consume which makes government stimulus policies less effective.
- **Schumpeterian Business Cycles**  
This paper presents an economy where business cycles and long term growth are both endogenously generated by the same type of iid shocks. I embed a multi-sector real business cycle model into an endogenous growth framework where innovating firms replace incumbent production firms. The only source of uncertainty is the imperfectly observed quality of innovation projects. As long as the goods are complements, a successful innovation in one sector increases demand for the output of other sectors. Higher profits motivate higher innovation efforts in the other sectors. The increase in productivity in one sector is thus followed by increases in productivity in the other sectors and the initial innovation generates persistent movement in aggregate productivity.

## WORK IN PROGRESS

- **Firm Cyclicity and Financial Frictions** (joint with Alex Clymo)  
In this paper we use data from the universe of Danish firms to investigate what drives the cyclicity of firms by firm age and firm size over the business cycle. We first document that employment and turnover are more cyclically sensitive at both *younger* firms and *larger* firms. Given that young firms tend to be smaller on average, this result seems initially surprising, but can be explained by the fact that each relationship holds while conditioning on the other. This suggests that independent forces are responsible for heterogeneous cyclicity by firm age and size respectively. We find that debt is more cyclical at younger rather than older

firms, suggesting an important role for financial frictions in driving outcomes over the business cycle for younger firms. We build a quantitative heterogeneous firm model with financial frictions and heterogeneous returns to scale, and show that it is able to explain all of our empirical findings. Differences in cyclical by firm age are quantitatively much more important for aggregate business cycles, and the effects of monetary policy, than differences in cyclical by firm size.

- **Computer Adoption and the Changing Labor Market** (Joint with Miguel Morin)

This paper examines computer adoption as a theoretical explanation for changes in the US labor market in recent decades. When computers become cheap and competitive compared to labor services, they diffuse more rapidly in the conventional mechanism of capital-labor substitution. We build a quantitative model which accounts for recent structural changes with this trend of automation: employment shifts away from routine occupations and the labor share of income declines. With hiring costs, firms entering a recession “front-load” the destruction of routine jobs, which accounts for recent cyclical changes of the labor market: routine job losses are concentrated in recessions and the ensuing recoveries are jobless. This paper also tests this labor demand mechanism against the labor supply mechanism of Jaimovich and Siu (2012b): computer adoption predicts job layoffs but not job quits among the unemployed.

- **Firm Dynamics and Cyclical Earnings Risk** (joint with Philipp Grübener)

- **Firm Exit** (joint with Petr Sedláček)

- **Sectoral shocks and dynamics of aggregate unemployment and vacancies**

I build a multi-sector firm model with heterogeneous productivity and endogenous entry and exit. I show that only a small friction at the entry stage (firms are required to succeed in innovation before they can enter) combined with a small degree of complementarity among goods of different sectors can generate significant amplification to sectoral shocks. Moreover, the model generates strongly positive correlation between aggregate vacancies and output in an economy with only sectoral productivity shock.

## PUBLICATIONS

- Roman Horvath, Lubos Komarek, Filip Rozsypal, *Does money help predict inflation? An empirical assessment for Central Europe*, Economic Systems, Volume 35, Issue 4, December 2011

*Abstract:* This paper investigates the predictive ability of money for future inflation in the Czech Republic, Hungary, Poland and Slovakia. We construct monetary indicators similar to those the European Central Bank regularly uses for monetary analysis. We find in-sample evidence that money matters for future inflation at the policy horizons that central banks typically focus on, but our pseudo out-of-sample forecasting exercise shows that money does not in general improve the inflation forecasts vis-a-vis some benchmark models such as the autoregressive process. Since at least some models containing money improve the inflation forecasts in certain periods, we argue that money still serves as a useful cross-check for monetary policy analysis.

- Lubos Komarek and Filip Rozsypal, *Definition And Evaluation Of The Central Bank Agresivity*, Politicka Ekonomie, University of Economics, Prague, vol. 2009(3).

*Abstract:* This paper examines definitions and assessments of central bank aggressiveness. It shows theoretical reasons why there is certain minimal threshold

value if CB wants to stabilize price level and on the other hand, why excessive reactions are suboptimal. The empirical part suggests that aggressiveness could be measured by defining certain indicators, based on variability of interest rates, inflation and output gap. The results are reported for countries with independent monetary policy as well as for countries in the eurozone, which has handed their monetary independency to ECB.

- Co-author in Hajkova ed., *Analyses of the Czech Republic's current economic alignment with the euro area*, 2007 and 2008 edition, Czech National Bank

## POLICY WORK

- **Firm-level Entry and Exit over the Danish Business Cycle** (joint iwth Svend Andersen), 2018  
We use a new registry micro level data set to study firm dynamics in Denmark. A unique feature of the data allows us to gain more information about older firms (operating for 30+ years), and an important proportion of these firms shows deteriorating productivity and rising exit rates. We find supportive evidence for other US-based stylized facts, such as young firms being more likely to exit and to grow faster over time. However, it seems to take longer for Danish firms to reach maturity. The Danish data also do not show any signs of a slowdown in the entry rate. Finally, we do not find long-run scarring effects on firms entering in recessions. However, fluctuations in the entry rate have persistent effects on the long-run aggregate volume of value added.
- **Who creates (and destroys) new jobs?** blog post, 2019
- **Beyond the aggregate unemployment rate: using BLF data to better understand labour market dynamics**, 2019
- **Worker flows and reallocation in COVID-19 exposed sectors in the Danish economy**, memo, 2020  
Past worker flows show that among the sectors hit hard by the COVID-19 epidemic, workers in "Transportation" accumulate relatively more human capital. In the event of large worker reallocation, this sector's productivity would be hit harder and need longer to recover due to the loss of firm and sector-specific knowledge and skills of the departing workers.
- **Digitalization in Danish economy** (joint with Saman Darougheh), memo, 2021, work in progress

## SCHOLARSHIPS AND AWARDS

- St Edmund's College, James Claydon Prize for the most outstanding PhD in Economics or related subjects **2017**
- Zdenek Bakala Foundation PhD Scholarship **2010 to 2015**
- Charles University in Prague Dean distinction for outstanding masters diploma thesis **Jun 2008**
- Czech Economic Society, Young Economist Award 2007, third prize **Nov 2007**
- Charles University in Prague, Erasmus Exchange Scholarship **May 2006**

## PRESENTATIONS, CONFERENCES (INCLUDING SCHEDULED)

(2012): Royal Economic Society Annual Conference, (2013): Stanford University Macro lunch seminar+Finance reading group, (2014) ZICE, Cambridge Macro Workshop, Doctoral Workshop on Dynamic Macroeconomics Strasbourg, CFM workshop Cambridge, (2015): CEF Taiwan, SED Warsaw, NorMacro Smogen, (2016): Uof-Barcelona, LSE, Cambridge, CEF Bordeaux, NorMac Ebeltoft, LSE, Household Surveys in Macroeconomics Workshop Hamburg, CEPR Economic Growth and Business

Cycle St Gallen, Winter meeting of Econometrics Society Edinburgh, CERGE-EI, Czech National Bank, (2017): FED Board, UofEssex, Danmarks National Bank, Norges Bank, Bundesbank, UofAlberta, BrandeisU, UIUC, UofCopenhagen, UofVienna, (2018): CEF Milan, NBER SI, BoE Behavioral conference, Mannheim Macro, BundesBank Housefold Finance, Norges/Bundes/DanmarksNationalbank Conference, ESCB 2nd Research Cluster Conference, (2019): CEF Ottawa, (2021): SED, CEF, EEM, Czech Economic Society

#### REFEREEING

B.E. Journal of Macroeconomics, Economic Journal, Economic Modelling, Economica, Journal of Economics&Management Strategy, Journal of International Economics, Journal of the European Economic Association, Scandinavian Journal of Economics, Studies in Nonlinear Dynamics & Econometrics, Empirical Economics

#### ACADEMIC SERVICE

Cambridge Macro reading group organizer (2011-2014), Charles University master thesis supervision (2012)

#### OTHER SKILLS

##### **Programming and statistical packages:**

Matlab, Stata, L<sup>A</sup>T<sub>E</sub>X, basics of MS Access

##### **Languages:**

Czech (native), English (fluent), French (intermediate), German (beginner)