# Matthias Rottner

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## Education

Ph.D. in Economics, European University Institute — *08/2016 - Present*
Advisors: Evi Pappa, Leonardo Melosi
Thesis Title: "Essays in Macroeconomics"

Visiting Researcher, Federal Reserve Bank of Chicago — *01/2019 - 06/2019*

Visiting Ph.D. Student, Northwestern University — *01/2019 - 06/2019*

M.Res. in Economics, European University Institute — *08/2016 - 07/2017*

M.Sc. in Economics, University of Copenhagen — *09/2014 - 07/2016*

B.A. in Economics, University of Erlangen-Nürnberg — *04/2011 - 03/2014*

## Research and Teaching Fields

Macroeconomics, Monetary Policy, Macro-Finance, Quantitative Methods

## Professional Experience

European Central Bank — *09/2019 - Present*
PhD Traineeship, DG Macroprudential Policy and Financial Stability

Deutsche Bundesbank — *08/2018 - 12/2018*
Internship, DG Financial Stability

Bank of Estonia — *06/2017 - 07/2017*
Internship, Research Unit — *06/2016 - 08/2016*
*06/2015 - 06/2015*

Kiel Institute for the World Economy — *04/2014 - 06/2014*
Internship, Economics and Research Department

## Teaching Experience

Florence School of Banking and Finance — *09/2019 - 09/2019*
Macro-Prudential Policy (PhD level), Teaching Assistant, Enrique Mendoza

European University Institute — *11/2017 - 01/2018*
Macroeconomics I (PhD level), Teaching Assistant, Axelle Ferrière

University of Erlangen-Nürnberg — *10/2011 - 03/2014*
Statistics (Bachelor level), Teaching Assistant, Ingo Klein

## Presentations (incl. scheduled)

2020 Danmarks Nationalbank, European University Institute, European Central Bank, NBER SI 2020 Monetary Economics (co-author presented), CEPR and Bank of Finland Joint Conference on Monetary Policy Tools, VfS Annual Conference 2020, 4rd Annual Workshop of ESCB Research Cluster 3 (discussant), 28th Annual SNDE Symposium, De Nederlandsche Bank 23rd Annual Research Conference

2019 Northwestern University, Bank of Estonia

2018 Deutsche Bundesbank, Bank of Estonia, European University Institute

## Scholarships

PhD Scholarship, German Academic Exchange Service (DAAD) *2016 - Present*
U.S. Department Visiting Grant, European University Institute (EUI) *2019*

## Training Activities and Summer Schools

Credit and the Macroeconomy, FBF Florence, Moritz Schularick *04/2018*
Financial Frictions and Macroprudential Policy, FBF Florence, Nobuhiro Kiyotaki *03/2018*
Regime Switching VAR & DSGE models, BI Oslo, Junior Maih & Daniel Waggoner *01/2018*
Estimation with DSGE & Time-Series Models, CEMFI Madrid, Marco Del Negro *08/2017*
Computational Methods, FBF Florence, Fabio Canova & Wouter den Haan *06/2017*
Macroeconometrics Summer School, BGSE Barcelona, Luca Gambetti & Gary Koop *07/2016*

## Skills

Languages: German (native), English (fluent), French (conversational), Estonian (basic)
Computer: Matlab, Dynare, Stata, Python, LaTeX

## Research Papers

### Macroeconomic Tail-Risk and Shadow Banks

How does the shadow banking system affect macroeconomic tail-risk? To answer this question, I develop a quantitative non-linear model featuring financial crisis and credit booms. A conventional macroeconomic model is extended with financial intermediaries that face leverage constraints and occasional bank runs. The framework reconciles that financial crises break out during credit booms after periods of low volatility. The key source for the emergence of tail-risk is elevated leverage of shadow banks. Fitting the model to US data, I estimate the probability of a bank run and the downside risk to economic growth around the recent financial crisis with a particle filter. The model finds significant and increasing macroeconomic tail-risk already from 2006 onwards. I illustrate that levying a leverage tax would have lowered substantially the probability of a bank run for this episode. Reduced-form empirical evidence that corroborates the connection between leverage and macroeconomic tail-risk is provided.

**Hitting The Elusive Inflation Target** with Francesco Bianchi and Leonardo Melosi
*NBER Working Paper 26279, CEPR Working Paper 14161*

Since the 2001 recession, average core inflation has been below the Federal Reserve's 2% target. This deflationary bias is a predictable consequence of the current symmetric monetary policy strategy that fails to recognize the risk of encountering the zero lower bound.

An asymmetric rule according to which the central bank responds less aggressively to above-target inflation corrects the bias, improves welfare, and reduces the risk of deflationary spirals - a pathological situation in which inflation keeps falling indefinitely. This approach does not entail any history dependence or commitment to overshoot the inflation target and can be implemented with an asymmetric target range.

**Reversal Interest Rate and Macroprudential Policy** with Matthieu Darracq-Pariès and Christoffer Kok

Could a monetary policy loosening entail the opposite effect than the intended expansionary impact in a low interest rate environment? We demonstrate that the risk of hitting the rate at which the effect reverses depends on the capitalization of the banking sector using a non-linear macroeconomic model calibrated to the euro area economy. The framework suggests that the reversal interest rate is located in negative territory of around -1%. The possibility of the reversal interest rate creates a novel motive for macroprudential policy. We show that macroprudential policy in the form of a countercyclical capital buffer, which prescribes the build-up of buffers in good times, can mitigate substantially the probability of encountering the reversal rate, improves welfare and reduces economic fluctuations. This new motive emphasizes also the strategic complementarities between monetary policy and macroprudential policy.

## References

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