LEONARDO URRUTIA

Curriculum Vitae *January 3, 2026*

Universität Leipzig
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RESEARCH INTEREST

Primary Field: Macroeconomics, Business Cycle Analysis; Financial Stability
Secondary Field: Macroprudential Policy; Financial Markets and Climate Change

EDUCATION

Universität Leipzig: Ph.D. in Economics *2021-present*
Supervisor: Prof. Dr. Thomas Steger
Courses on Ph.D. level:

- Micro- , Macroeconomics, and Econometrics; CGDE
  Overall course grade: 1.2; Scale: 1.0 (best) to 5.0
- Multivariate Time Series Analysis, by Prof. Dr. Lütkepohl; Berlin School of Economics
- The Macroeconomics of Climate Change, by Prof. Dr. Hassler; CGDE
- Macroeconomics and Inequality, by Prof. Dr. Koeniger; CGDE
- Deep Learning for Solving Dynamic Stochastic Models, by Prof. Dr. Scheidegger; CGDE
- Computational Economics, by Prof. Dr. Judd; CGDE

Dynare Summer School *2022*
In Paris

Freie Universität Berlin: M.Sc. in Economics *2019-2021*
Graduation: 1.3 (Master thesis 1.0)
Scale: 1.0 (best) to 5.0
Thesis title: "Growth-at-Risk in Germany – A NK-DSGE Model with Financial Vulnerabilities"
Special courses:

- Advanced Macroeconomics, by Prof. Dr. Trabandt
- Bayesian and Frequentist estimation of DSGE models, by Prof. Dr. Schorfheide

Freie Universität Berlin: B.Sc. in Economics *2016-2019*
Graduation: 1.2 (Bachelor thesis 1.0)
Scale: 1.0 (best) to 5.0
Thesis title: "What determines immigration to Germany? An empirical analysis using the gravity model"

EMPLOYMENTS

European Central Bank *2023-2024*
PhD Traineeship, Monetary Policy – Capital Markets and Financial Structure

Universität Leipzig *2021-Present*
Research Assistant, Chair of Prof. Dr. Thomas Steger
Theoretical Macroeconomics

Deutsche Bundesbank *2021*
Internship, Financial Stability Analysis and Macroprudential Surveillance Division
Master Thesis in Cooperation with Deutsche Bundesbank

Freie Universität Berlin *2019-2021*
Teaching Assistant, Chair of Prof. Dr. Dieter Nautz

Federal Ministry For Economic Affairs and Energy *2019*
Internship, Division for German Maritime Economy

RESEARCH PROJECTS

Growth at Risk: A VAR-Quantile-Regression Approach.

Forthcoming as ECB Working Paper

Authors: Giacomo Carboni, Luís Fonseca, Fabio Fornari, and Leonardo Urrutia

Methods: Vector Auto Regressions, Quantile Regresions.

We investigate the impact of structural shocks on the joint distribution of future real GDP growth and inflation in the euro area. We model the mean of their distribution, together with selected financial indicators, using a VAR and perform quantile regression on the VAR residuals to estimate the time-varying variance as a function of macroeconomic and financial variables. Through impulse response analysis, we find that demand and financial shocks reduce expected GDP growth and increase its conditional variance, leading to negatively skewed future growth distributions. By enabling this mean-volatility interaction, demand-type shocks drive a significant time variation in downside risk to euro area GDP growth. Conversely, supply-type shocks do not generate the same mean-volatility interaction, resulting in symmetric movements in GDP growth and inflation quantiles.

Monetary Policy, Macroprudential Regulation, and Growth at Risk: Insights from a Medium-Scale DSGE model

Authors: Nikolay Hristov, Benedikt Kolb, and Leonardo Urrutia

Methods: Non-linear DSGE-Model; Perturbation; Bayesian, and Frequentist estimation methods.

The "Growth at Risk" (GaR) literature following Adrian et al. (2019) has documented the importance of financial conditions for downside risks to economic growth. Adrian et al. (2020) elicit GaR dynamics from a small model by adding a 'vulnerability function' to a New Keynesian model—the vulnerability function links time-varying uncertainty in the model to the state of the economy. Here, we introduce the vulnerability channel into an otherwise medium-scale DSGE model with a financial sector based on Angeloni und Faia (2013). In particular, financial vulnerability increases in a bank run probability variable, which is at the heart of financial frictions, and affects macroeconomic volatility. We choose this variable as it has a straightforward interpretation as

a financial stress indicator whose empirical pendants are usually used to forecast time-varying uncertainty. We show that introducing a vulnerability channel for a version of the model estimated on euro area data can replicate several core asymmetries and nonlinearities in an otherwise standard DSGE model solved with higher order perturbation techniques. Therefore, we propose a novel two-step estimation procedure that utilizes Gaussian Process Regressions trained on the particle filter to reduce the computational estimation burden significantly.

Barking up the Wrong Tree? Climate News and Financial Stability

Author: Leonardo Urrutia

Methods: Theoretical deterministic dynamic integrated assessment model

Uncertainty about climate change persists because key parameters in climate models remain poorly constrained. One of the most notable of these is equilibrium climate sensitivity (ECS) — the long-term increase in global temperature following a doubling of CO_2. Using a New-Keynesian integrated assessment model with financial frictions, we investigate whether news shocks that update beliefs about ECS could cause the macro-financial system to become unstable. Due to their exceptional forward-looking nature, financial markets are especially vulnerable to information about the future. As such news arrives, agents revise their expectations, adjusting their behaviour, policy implementation and investment choices simultaneously. Therefore, we establish a direct link between the physical and transition risks of climate change and a single pivotal parameter. We find that bad news about ECS can trigger financial stress. It is transition risk — the attempt to limit climate change to 2°C — that causes this instability; physical risk itself does not generate significant financial stress in the short term. However, since those bad news lead to a decrease in the future real interest rate, supporting asset prices, especially the near term physical and transition risk to the financial market is limited.

PRESENTATIONS

Lunch Time Seminar Leipzig *2025*
Barking up the Wrong Tree? – Climate News and Financial Stability

European Central Bank: Capital Markets and Financial Structure Seminar *2024*
On the Origins of Growth-at-Risk: a VAR-Quantilegression Approach.

Lunch Time Seminar Leipzig *2023*
On the Origins of Growth-at-Risk: a VAR-Quantilegression Approach.

CGDE Doctoral Workshop, Jena *2022*
Growth-at-Risk: A New-Keynesian DSGE Model with Financial Vulnerabilities

Lunch Time Seminar Leipzig *2022*
Growth-at-Risk: A New-Keynesian DSGE Model with Financial Vulnerabilities

European Central Bank: Macro-at-Risk Working Group *2021*
Growth-at-Risk: A New-Keynesian DSGE Model with Financial Vulnerabilities

AWARDS AND GRANTS

Award for Best Master's Thesis *2021*
In Macroeconomics from Deutsche Bundesbank and Freie Universität Berlin

Scholarship *2017*
Friedrich-Naumann-Stiftung für die Freiheit, for undergraduate and graduate studies

Honouring of Voluntary Commitment *2014*
From the mayor of the Wandlitz community

LANGUAGE SKILLS

German: Native; **English:** C1; **Spanish:** B1

TECHNICAL SKILLS

Computer Languages	Java Script, Python (Basics)
Statistic Software	Matlab, Dynare, R, EViews, Stata, JMP
Databases	MySQL
Programs	MS-Office, LaTeX

TEACHING EXPERIENCE

Introduction to Monetary Policy, ECB Visitor Centre *winter 2023*
Lecture, English

Quantitative Dynamic Macroeconomics, Bachelor, Universität Leipzig *winter 2023*
Exercise class, English

Advanced Macroeconomics, Master, Universität Leipzig *summer 2022, 2023, 2024*
Exercise classes &
short course on labor market frictions (especially search and matching) in DSGE models, English

Macroeconomics, Bachelor, Universität Leipzig *winter, 2021, 2022, 2023, 2024, 2025*
Exercise class, German

Mathematics for Economists, Bachelor, Freie Universität Berlin *winter 2019, 2020*
Exercise class, German

Econometrics, Bachelor Freie Universität Berlin *summer, 2019, 2020*
Exercise class, German

REFERENCES

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